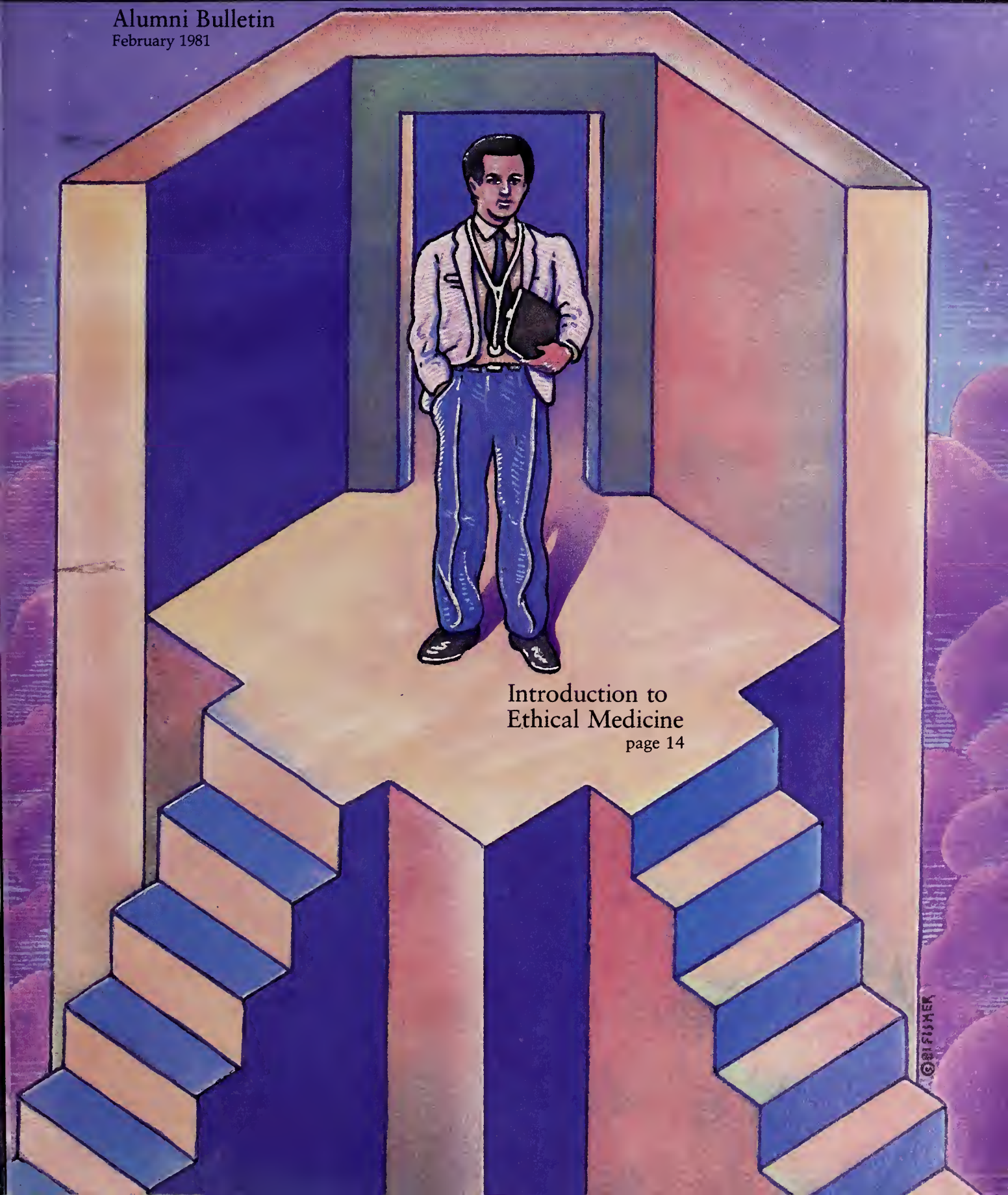
HARVARD MEDICAL

Alumni Bulletin
February 1981



Introduction to
Ethical Medicine
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volume 55 number 1

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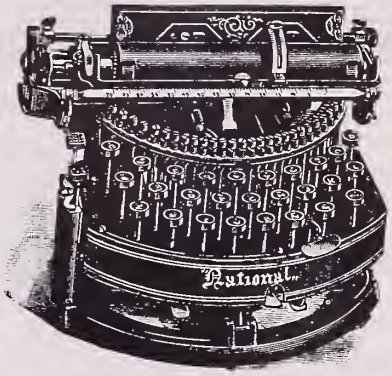
Letters *from*



George S. Richardson

Editor, 1971-1980

How does one get to be editor of the prestigious *Harvard Medical Alumni Bulletin*? In my case it was an imperious long-distance phone call to San Antonio, Texas, from Sarge Cheever '36, that found me with no excuse for refusing. The idea, it turned out later, had originated in the ever-fertile mind of Cliff Barger '43A.

Leaving the job is another matter. I was reading the entrails one day (even gynecological surgeons can play *haruspex*, as the Romans called it) when I knew that the end for me as editor of the *Bulletin* was at hand: that a child would be born, and I would leave. That was Zachary, born November 2, 1980, the first son of Steven and Deborah Miller, she who until then had been managing editor.

A Managing Editor is a special person. As I view it in hindsight, and without attempting to prescribe for the future, the Managing Editor arrives with the ability to produce a magazine, and then acquires a love for HMS and its alumni/ae. Only love can make it possible to deal kindly but appropriately with those who want publicity and those who want to keep everything out of the papers, with those who need total support in writing and those who think their written words are sacred. The Editor nourishes the love: opening doors and making introductions, saying, in effect, "This is my family — they're your family too." The Editor of course provides ideas, even though some may be aborted, like my own pet cover idea, portraying the Dean and his associate deans as Apollo and the Muses. As ideas are exchanged and as doors are opened, more ideas come, and new persons are found who step ably in as guest editors, leading to issues that belong more to them than to either the Editor or Managing Editor. First among these was the late George E. Gifford, Jr., enthusiastic historian, who among other things carried us through the country's Bicentennial.

It has been my good fortune to work with two Managing Editors, and to have the terms of each end with a blessed event. Joan Rafter Ryan served through the spring issue of 1974, and Deborah Miller thereafter. Joan was my teacher when I started in 1971. Deborah, arriving with ready-made links with the alumni/ae, learned much of the magazine mechanisms from Joan. With time, we produced a more ambitious *Bulletin* and acquired Assistant Editors, notably Gwen Frankfeldt and David Bumke. Office space shrank as the production increased, and your editors are now in a miserable 15 × 15 feet, still doing all their own typing. Indeed, I have often compared their operation to the *New Yorker* drawing of the Cadillac hood, open at the gas station, with two exhausted squirrels in a cage in place of an engine.

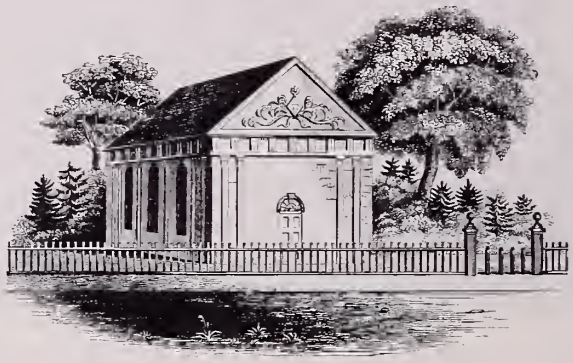
We have done our best to entertain, ranging from the significant (the institutional self study of HMS, May-June '78) to the trivial (yachting, May-June '73). My favorites are Joan Ryan's Indians (Jan.-Feb. '72), Deborah Miller and Gwen Frankfeldt's coffee-table "Artists Among Us" (Jan.-Feb. '78) and David McCord's poetry issue (Nov.-Dec. '76). All of these, and all the rest, I have in four large red

The Bicentennial — *a prospectus*

by Daniel D. Federman
Dean for Students and Alumni

The concept of a medical faculty at Harvard University was first raised in September of 1782 and was almost immediately accepted by the Overseers of Harvard College. Planning progressed quickly during the following months, and in September of 1783 the first two professors were appointed and two students were admitted to the School.

Harvard Medical School plans to celebrate the 200th anniversary of these events in the period from June of 1982 to June of 1983. During that time, activities are scheduled for Boston, at both HMS and its affiliated hospitals, and elsewhere throughout the United States. One of the principal themes informing our plans is the wish to reinforce or reestablish ties between the School and its alumni. In order to give you the best chance of planning to participate, I have outlined the times and purposes of the principal events.



the Editor(s)

leather-bound volumes, a generous gift of HMS alumni/ae for which I am most grateful. It is my own chronicle. Its alumni notes, and even its obituaries, record only the sunny hours.

Editors come, editors go, but the alumni/ae, ever arriving as students, go on forever. The *Bulletin* belongs to them. It is not, and must not become, simply a brochure for Harvard Medical School. It is better off in its somewhat risky position, not quite in and not quite out of the Dean's office, where it can maintain credibility, belief based upon *Veritas*, in the Harvard tradition.

In the persons of Gordon Scannell '40, David Bumke, and Laurie Singer, the *Bulletin*'s editorial skills have never been stronger. I can only wish them as pleasant a team relationship as I have enjoyed. But I know that if a better *Bulletin* can be produced, they will produce it.

J. Gordon Scannell

Editor, 1981-?

After ten years of creative leadership, cultivated wisdom, and a great deal of common sense, George Richardson deems it time to pass on the editorial torch — or whatever it is that editors pass on — and return to his practice and his laboratory. The very model of a modern major editor, fortunately we can continue to turn to him as the Romans to Cincinnatus for cool advice and the instant retrieval of knowledge.

He has set the course for us, but just imagine how it feels to follow the author of this:

In all our work, let Excellence be seen
Whether we teach, administer or treat.
Let treaters search and searchers care, and meet
Each problem with a mental edge as keen
For sharing as for seeking — not serene
To bear that what we know is incomplete,
That while we labor to make life more sweet
We cannot know or share what pain may mean.

If Excellence be ours, then our land
Will listen when we feel impelled to speak
And turn to us to give a helping hand.
If Harvard must in some way be unique
In lecture hall, or bench, or bedside — there
Let Harvard's mark be that we deeply care.

— **GSR**

George, you have done it again and those of us who have worked with you for many a year look forward to a conversation unbroken.

For those of you who remember such things, sometime ago when John Brooks turned back the editorship of this journal to Joe Garland, he alluded to Tenniel's classic cartoon "Dropping the Pilot."* In our case, appropriate to the jet age, we are, rather, "Changing the Flight Crew," for Deborah Miller leaves at the same time. It is difficult to do justice to her imaginative and devoted service so evident in the pages of the *Bulletin* for the past seven years.

So with David Bumke and Laura Singer on the flight deck, we prepare for take-off. Our flight plan is unrevealed, our flying time uncertain, but we have promises to keep and in doing so will try to come across with greater clarity than the usual rumbling drawl over the intercom. Meantime, thank you for flying *HMAB*.

*My information that it was Tenniel came, needless to say, from GSR. The *Encyclopedia Brittanica* agrees.

Class Day/Alumni Day 1982: The Bicentennial observance will begin with an expanded Class Day/Alumni Day program on June 9-11, 1982, featuring historical and scientific symposia. A committee chaired by Carl W. Walter '32 is preparing a program that will highlight the course of medical education over the past two centuries, particularly in terms of its content, the changes in medicine and disease patterns, and the career paths of Harvard Medical students. Another program, planned by a committee co-chaired by Sidney Alexander '57 and Peter M. Yurchak '57, will examine current issues in health care.

Academic Convocation 1982: A special academic convocation honoring the Bicentennial is scheduled for October 12-14, 1982. World leaders in the medical profession will convene at the Medical School for a series of symposia discussing advances in medical sciences and the relationship of medicine to society. A full program of social events is also planned. The convocation will climax with an academic procession through the Quadrangle and the award of honorary degrees and commemorative medals.

Class Day/Alumni Day 1983: The Bicentennial year will conclude with an expansion of the Class Day and Alumni Day activities on June 8-10, 1983. I am chairman of a committee which is planning a program on current progress in medicine and medical education. Symposia will explore such topics as the future of health care, including preventive medicine, public health and public policy, patient and public education, and the future role of the academic health centers.

Apart from these principal events, there will be many activities in Boston throughout the year June 1982-June 1983. The Medical School will coordinate plans with each of the Harvard affiliated hospitals to recognize the Bicentennial through lectureships, rounds, or other programs. A special exhibit on the cell is also being planned in conjunction with the Boston Museum of Science.

In addition, regional Bicentennial celebrations are

(continued on page 10)

Leder-ship for Genetics Department

In a relatively short amount of time the field of genetics has become a universal language in the biomedical sciences, and Philip Leder '60 has become one of its most eloquent spokesmen. Leder is returning to HMS to become the John Emory Andrus Professor and Chairman of the Department of Genetics — the first new basic science department to be created at the medical school in fifteen years. In accepting the Surdna Foundation-endowed chair, he relinquishes his current post as chief of the laboratory of molecular genetics at the National Institute of Child Health and Human Development.

Dean Tosteson's description of Leder as "an extraordinary scientist with a brilliant record of accomplishment" encapsulates an impressive career of research into fundamental genetic processes, conducted mostly on NIH turf. He participated in landmark experiments with Dr. Marshall Nirenberg which helped to crack the genetic code and elucidate the molecular basis of gene expression in higher organisms. Subsequently, Leder and his colleagues devised a recombinant DNA cloning strategy that led to the first cloned mammalian gene.

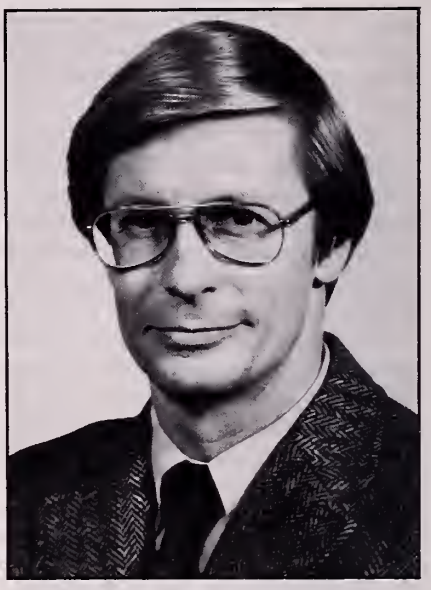
In the wake of those investigations, he was able to identify the way genes are coded and constructed, bringing to light the interrupted structure of genes in mammalian cells — an unexpected finding which revealed that the processing of genetic information involves more steps than was initially believed.

A greater understanding of the activity and diversity of antibodies is another outgrowth of Leder's work. He found that segments of a very limited type of genetic material recombine into hundreds of thousands of different antibody sequences of great specificity and result in a unique immunological blueprint for each individual. In part because of Leder's discoveries, it is now possible to identify the deletions, mutations, and additions in a genetic sequence that account for inherited abnormalities and diseases.

Leder sits on the scientific advisory boards of the Jackson Laboratory, the Howard Hughes Medical Institute, and the Massachusetts General Hospital, as well as the editorial boards of many journals. The author or coauthor of over 100 papers, he was honored with the Director's Award from the NIH in 1976, the Mider Lectureship in 1977, and the Warren Triennial Prize at the MGH last year. He has been visiting lecturer or fellow at many universities and institutes in the U.S. and Israel, and is a member of the National Academy of Sciences.

Harvard's recognition of Leder's talents began when, as an undergraduate in 1954, he received the Detur Award for academic excellence.

With the increased momentum afforded by departmental status, genetics will serve as a fulcrum for widely dispersed activities at the school and to propel future efforts in teaching and scientific investigation. Research will be conducted in cytogenetics; somatic cell, biochemical, and experimental genetics; prenatal diagnosis; epidemiology of morphological defects; amino acid and sex chromosome disorders; pharmacogenetics; and developmental, Mendelian, and population genetics.



Moellering Chief of Medicine at NEDH

Robert C. Moellering, Jr. '62 has been tapped to succeed James L. Tullis, who will retire in June as professor and chairman of the department of medicine at the New England Deaconess Hospital. An infectious disease specialist, Moellering is currently associate professor at the Massachusetts General Hospital.

When he moves to the Deaconess this spring, Moellering will continue research aimed at unraveling the mechanisms of antibiotics' interactions against various bacteria. As a byproduct of his work, he hopes to bring about "a more enlightened use" of antibiotic drug combinations which, he believes, are often overutilized.

For the past decade Moellering and his colleagues have been concentrating on the mechanisms of antibiotic synergism and resistance in the enterococcus — a strain of streptococcus which stubbornly resists the action of penicillin. They were able to explain the biochemical process whereby a combination of penicillin and streptomycin can successfully kill off some enterococci, and why, in other cases, the synergism fails.

In addition to uncovering several mechanisms of resistance to syner-

(continued on page 6)

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by Norman M. Kaplan
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Instructor
The author, Norman M. Kaplan, M.D., Professor of Internal Medicine, Southwestern Medical School, The University of Texas Health Science Center at Dallas

Audience
Family practitioners, internists, pediatricians, and adult and pediatric cardiologists, nephrologists, and endocrinologists.

Objective
Physicians completing this course should have the knowledge necessary for the evaluation and non-surgical management of adult and pediatric patients with any form or at any stage of hypertension.

Dr. Kaplan's book—the book on which this course is based—was selected by the American College of Physicians for *A Library for Internists III.*

Course 302. The study of the book

Neonatal Respiration: Physiological and Clinical Studies

by L. B. Strang
Blackwell Scientific Publications, Ltd., Oxford; distributed in the United States by The C.V. Mosby Company, St. Louis
AMA Category 1 credit hours: 28
Fee: $195* (tax deductible)

Instructor:
The author, L. B. Strang, M.D., F.R.C.P., Professor of Paediatrics, University College Hospital Medical School, London.

Audience
Neonatologists, pediatricians, anesthesiologists, obstetricians, and others interested in the newborn or in respiratory physiology or disease.

Objective
Physicians completing this course should have the knowledge, based on a thorough understanding of the respiratory adaptation at birth, to intelligently evaluate and treat neonates with respiratory disorders.

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From the review of Dr. Strang's book in *The New England Journal of Medicine*

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Course 161. Similar to Course 160 but excluding a discussion of renal physiology. Instructor: the author.
Course 403. The study of the book THE ANALYSIS OF THE SELF by Heinz Kohut; International Universities Press, New York. Instructors: the author and Dr. Hyman Muslin.
Course 404. The study of the book THE RESTORATION OF THE SELF by Heinz Kohut; International Universities Press, New York. Instructors: the author and Dr. Hyman Muslin.
Course 506. The study of the book HEADACHE by Neil H. Raskin and Otto Appenzeller; W. B. Saunders Company, Philadelphia. Instructor: one of the authors, Dr. Raskin.

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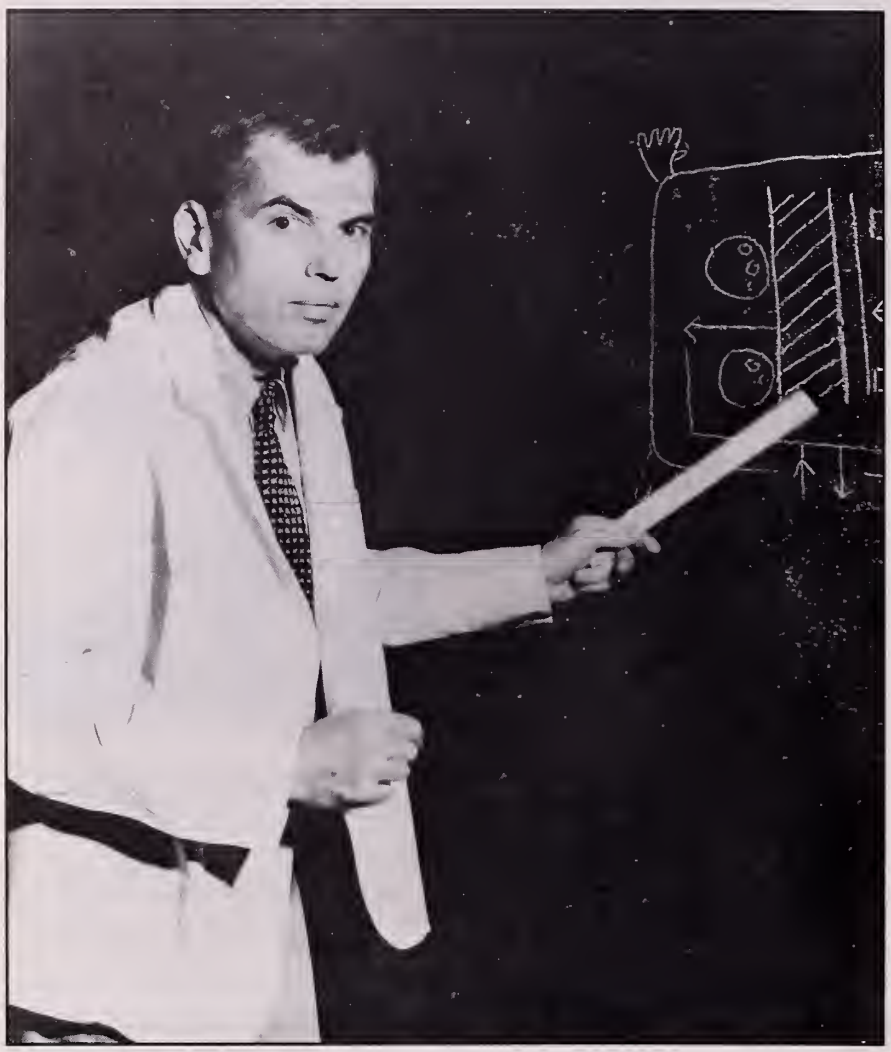

Dr. Albright, left, in 1950s photo

Academic Society Honors Fuller Albright

The success of academic societies at HMS can now be measured quantitatively. A fifth society, which bears the name of Fuller Albright, was recently inaugurated to honor the late endocrinologist, surgeon, and teacher. Like its forerunners, the Albright Society was formed in an effort to improve the quality of life at the medical school by bringing together students and faculty in an atmosphere of scholarship and fellowship. Following the precedent set by the Cabot Society, which focuses on primary care and family practice, the Albright Society is also loosely thematic: Programs are all related to some aspect of clinical investigation, a fervent interest of the society's namesake.

Although Fuller Albright died in 1969, his medical career was truncated thirteen years earlier by severe complications of Parkinson's disease. But during his tenure at HMS his contributions to the field of endocrinology were legion. Among them were: classical methods for the study of calcium, phosphorous, and protein balances and the effects of hormones on them; description of what came to be known as Albright's syndrome — a disease affecting the bones and skin pigmentation; effective therapy for a type of rickets caused by resistance to vitamin D; a technique for treatment of kidney stones; a hormonal therapy for certain kinds of uterine hemorrhage; discovery of renal tubular acidosis, a kidney disease; the demonstration that osteoporosis after menopause can be effectively treated with hormones; description of development of Cushing's syndrome, forming one of the bases for understanding the effects of cortisone and other drugs on the body; description of pseudohypoparathyroidism; and the identification of the physiological changes in Paget's disease.

Gerald Fischbach, Professor of Pharmacology and master of the Albright Society, notes that the group's mandate to focus on basic science is being broadly interpreted. "We're attempting to select topics that have an immediate impact on the clinical aspect of medicine, that have current import for therapeutics," he said. Meetings to date have borne this out: the chemistry of dioxin was discussed at one session, as well as its environmental impact as a component of insecticides. Other topics have included the production of useful proteins through recombinant DNA techniques, along with some of the problems of preparing these for commercial use; and drug advertising — in particular, the relationship of the physician to the drug industry.

MOELLERING

(continued from page 4)

gism, Moellering and his staff have developed simple laboratory tests for demonstrating resistance in enterococci. Most recently, he has focused his attention on the question of why some gram-negative bacteria (notably those involved in nosocomial infections) resist certain aminoglycosides, which were generally considered to be the drug of choice for such infections. These studies, in turn, enabled him to define a series of alternative drug treatments for such patients. Other investigations being conducted by Moellering and his colleagues are aimed at evaluating new antibiotics and appropriate dosage levels in individuals with thermal burns and renal disorders.

After graduation from HMS, Moellering began his training at the MGH, where he later became a research fellow and ultimately joined the staff of the infectious disease unit. His MGH career was interrupted only once — when he served for two years as surgeon for the National Heart Institute Collaborative Studies Section, with assignment to the Honolulu Heart Program and Hawaii Cardiovascular Study.

Doffing lab coat for tails, Baruj Benacerraf accepted the Nobel Prize for Medicine from King Carl Gustaf of Sweden at ceremonies on December 10. Benacerraf, Fabyan Professor of Comparative Pathology at HMS and president and chief executive officer of the Sidney Farber Cancer Institute, was honored for his discovery of the immune response gene system, which governs the body's ability to identify and respond to foreign substances. He shared the Prize for Medicine with Dr. George Snell of Bar Harbor, Maine, and Dr. Jean Dausset of Paris. Benacerraf is Harvard's twenty-fourth Nobel laureate, and the seventh from HMS.

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Moellering is a member of the American Society for Clinical Investigation, the Infectious Disease Society of America, the American Society for Microbiology, and the ad hoc review committee of the Board of Scientific Counselors, NIH. A member of the editorial board of the *New England Journal of Medicine* since 1977, Moellering is also on the editorial board of *Antimicrobial Agents and Chemotherapy.*

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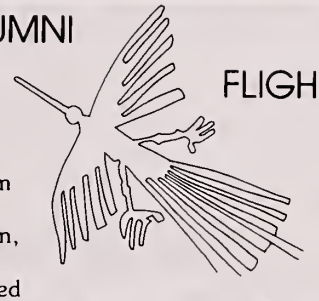

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Anthony L. Komaroff: medicine at B&WH
Robert L. Lebowitz: radiology at CHMC
David Evan Leith: anesthesia at B&WH
Simon D. LeVay: neurobiology
Melvin D. Levine: pediatrics at CHMC
Frederick Pei Li: medicine
Thomas F. Linsenmayer: anatomy
Kenneth A. McKusick: radiology at MGH
Theresa C. McLoud: radiology at MGH
Marek-Marsel Mesulam: neurology
Steven M. Mirin: psychiatry at the McLean Hospital (MCL)
Theodore Nadelson: psychiatry at BIH
Herbert L. Needleman: psychiatry at CHMC
Marian Ruth (Peterson) Neutra: anatomy
Gerald Michael Pohost: medicine at MGH
Quentin R. Regestein: psychiatry at B&WH
Jerome P. Richie: surgery at B&WH
Eli C. Ridgway III: medicine at MGH
John W. Rowe: medicine
Robert H. Rubin: medicine at MGH
Albert J. Saubermann: anesthesia at BIH
Lowell E. Schnipper: medicine at BIH
William C. Schoene: pathology at B&WH
Robert L. Selman: psychology at CHMC
Bhagwan T. Shahani: neurology at MGH
Arthur J. Sober: dermatology
Charles D. Stiles: microbiology and molecular genetics
Howard L. Weiner: neurology at CHMC
Arthur E. Weyman: medicine at MGH
Mary E. (Beck) Wohl: pediatrics at CHMC

Associate Clinical Professor

Melvin E. Clouse: radiology
Stafford I. Cohen: medicine
James W. Dykens: psychiatry
Samuel L. Moschella: dermatology
Richard J. Simmons: ophthalmology
Theodore Steinman: medicine at BIH
Norman Zamcheck: medicine

Assistant Professor

Christopher J. Bain: medicine
Frank E. Barber: radiology
Arthur J. Barsky III: psychiatry at MGH
David I. Beller: pathology
Ross S. Berkowitz: obstetrics and gynecology at B&WH
Donald M. Berwick: pediatrics at CHMC
Stella A. Biano: pathology at B&WH
Perry J. Blackshear: medicine
Hong M. Cheng: ophthalmology (biochemistry)
Keith H. Chiappa: neurology at MGH
Francis Chin-Ta Chao: medicine
Charles Cintron: ophthalmology (biochemistry)
Paul G. Cotton: psychiatry at the Cambridge Hospital (CAM)
Charles J. Cote: anesthesia at MGH
Robert K. Crone: anesthesia (pediatrics) at CHMC
William F. Crowley, Jr.: medicine at MGH

Joel E. Dimsdale: psychiatry at MGH
Victor J. Dzau: medicine
Sarah J. Emons: pediatrics at CHMC
Dennis Allen Evans: medicine
Montserrat D. Fencl: obstetrics and gynecology at B&WH
Robert W. Finberg: medicine at B&WH
Christopher N. Frantz: pediatrics at CHMC
Richard F. Gibbs: anesthesia at B&WH
David N. Glass: medicine at B&WH
Albert M. Galaburda: neurology
Ronald P. Goldberg: radiology at BIH
Allan H. Goroll: medicine at MGH
Alan J. Greenfield: radiology at MGH
Alexander R. Halperin: prosthetic dentistry at HSDM
Dolly D. Hansen: anesthesia at CHMC
John R. Hesselink: radiology at MGH
David John S. Hulmes: medicine (biochemistry) at MGH
Robert W. Hussey: orthopedic surgery
Thomas M. Jessell: neurobiology
T. Scott Johnson: medicine
Harvey R. Jones: neurology at CHMC
Rosemary Christian Thomson Jones: pathology
Shyr-Te Ju: pathology
Fred G. Kantrowitz: medicine at BIH
James Haynes Kelly: otolaryngology at BIH
George M. Kleinman: pathology at MGH
Ernest E. Lack, Jr.: pathology at CHMC
Robert J. Levy: pediatrics
Michael C. Liberman: physiology in the department of otolaryngology
Luke H.S. Liu: ophthalmology
Philip L. Liu: anesthesia at B&WH
Thomas Maciag: pathology
Peter N. Madras: surgery
Arnold W. Malcolm: radiation therapy at JCRT
Theo C. Manschreck: psychiatry at MGH
Gary R. Matsueda: pathology
John J. Mekalanos: microbiology and molecular genetics
Warwick L. Morison: dermatology
George B. Murray: psychiatry at MGH
Peter E. Newburger: pediatrics
Najmosama Nikrui: obstetrics and gynecology at MGH
Jiri Novotny: pathology
John A. Parker: radiology
Leroy M. Parker: medicine at the Sidney Farber Cancer Institute
Stephen W. Parker: neurology at MGH
Marc A. Pfeffer: medicine
Richard D. Propper: pediatrics
Andrea Quaroni: medicine
James T. Rhea: radiology at MGH
John M. Robinson: pathology
Barry A. Sacks: radiology at BIH
Robert C. Schneider: anesthesia at MGH
Frederick H. Silver: pathology
Kenneth J. Silverman: medicine at BIH
Ann R. Stark: pediatrics
Paul Stark: radiology at MGH
Alfred I. Tauber: medicine
George E. Thibault: medicine at MGH
Aaron Randal Thornton: otolaryngology
Joseph Upton: surgery at B&WH
John A. Wagner: biological chemistry
Bosco S. Wang: surgery
Jeanne Y. Wei: medicine
Steven E. Weinberger: medicine at BIH
Scott T. Weiss: medicine at BIH
Sigmund A. Weitzman: medicine at MGH
Helen Lu Yin: medicine (cell biology)
Randall M. Zusman: medicine

Assistant Clinical Professor

Marilyn S. Albert: neurology (neuropsychology)
Valeria Cavazzuti-Erba: neurology (neuropsychology)
Hugh P. Chandler: orthopedic surgery
Salvatore A. DeLuca: radiology
John V. Donlon, Jr.: anesthesia
Michael S. Duchowny: neurology
Michael I. Good: psychiatry
John W. Graef: pediatrics at CHMC
Albert D. Guckes: prosthetic dentistry
H. Royden Jones: neurology
John P. W. Kelly: oral and maxillofacial surgery
Burnham E. Lamkins: dermatology
Ronald J. Marcus: obstetrics and gynecology at BIH
Robert I. Poss: orthopedic surgery
Richard D. Scott: orthopedic surgery
Laurence J. Sloss: medicine at B&WH
Daniel J. Smith: oral biology and pathophysiology

appointments

Professor

Howard Green: physiology
David A. Hamburg: psychiatry; health policy
Philip Leder: John Emory Andrus Professor of Genetics
Robert R. Rando: pharmacology

Associate Professor

Beatrix A. Hamburg: psychiatry at CHMC
Drummond Rennie: medicine
Robert L. Selman: psychology in the department of psychiatry
Arthur E. Weyman: medicine at MGH

Assistant Professor

Bonnie B. Asch: pathology
David E. Barrett: pediatrics (psychology)
Welcome W. Bender: biological chemistry
Peter M. Black: surgery
Edward M. Brown: medicine
Steven J. Burden: anatomy
Dennis R. Carter: orthopedic surgery
Marvin P. Fried: otolaryngology at BIH
Lorraine J. Gudas: pharmacology
Hideo Kubo: radiation therapy (radiation biophysics) at MGH
James T. Kurnick: pathology
Allan M. Maxam: biological chemistry
Thomas M. Roberts: pathology
Frederick J. Schoen: pathology at B&WH
J. Enrique Silva: medicine
Jack W. Szostak: biological chemistry at SFCI
Christopher S. Wilcox: medicine

Assistant Clinical Professor

Jeffrey L. Ebersole: oral biology and pathophysiology
Stephen Podolsky: medicine

In 1907, the year after Harvard Medical School was moved to the Great White Quadrangle, Professor Thomas Dwight was photographed lecturing his anatomy class in a spanking new teaching amphitheatre. Until Dwight's occupancy, the chair of anatomy at HMS had been held by only three men over a period of nearly a hundred years: John Warren and John Collins Warren (Dwight's great-grandfather and grandfather, respectively) and Oliver Wendell Holmes. The latter was apparently a tough act to follow. According to the 1906 History of the Harvard Medical School, *every effort was made by the faculty to find a worthy successor to Dr. Holmes; "these efforts failing, it became necessary in June, 1883 to appoint Dr. Thomas Dwight to the professorship."*

Dwight made no attempt to emulate his predecessor's brilliance as a lecturer. Instead he relied on a wide and imaginative array of visual aids in the classroom. One of his students wrote that "He caused to be constructed under minute personal supervision, many large models, especially of the bones and viscera, unrivalled aids to teaching. He even turned clay modeler!" One of Dwight's sessions was especially memorable. "With clothing imperfectly protected by an old rubber apron hung awry from his neck, he plunged into two great masses of moist clay, variously colored, and, after prodigious kneeding and rolling and scraping, he produced a doubtful looking cylindrical mass, which on section with a wire showed to the expectant class a really graphic cross-section of the spinal cord."

BICENTENNIAL

(continued from page 3)

scheduled for twelve metropolitan areas throughout the country: Atlanta, Austin, Baltimore/Washington, Chicago, Cleveland, Los Angeles, Miami, Minneapolis, New York, San Francisco, Seattle and Winston-Salem. In each area local committees are planning programs which will bring together alumni of the Medical School and the Harvard hospitals with present faculty and students.

A special quarterly publication, the *Bicentennial Report*, is documenting much of the history of the School and will be describing the events of the celebration in greater detail.

To assist the many groups planning Bicentennial programs, an historical advisory committee has been developing program ideas and suggestions for interpreting the history of HMS. The Committee is preparing its own history program for January 1983, to be jointly sponsored by the University's history of science department.

Preparations for the Bicentennial are being supervised by a bicentennial planning committee chaired by Dean Daniel C. Tosteson. This committee would welcome ideas and suggestions from all alumni. Please write me your thoughts, and please plan now to participate in the Harvard Medical School Bicentennial.

HARVARD MEDICAL SCHOOL ANNOUNCES

The William O. Moseley, Jr. Travelling Fellowship

Applications Invited for 1982-83

THE BEQUEST OF JULIA M. MOSELEY MAKES AVAILABLE FELLOWSHIP FUNDS FOR GRADUATES OF THE HARVARD MEDICAL SCHOOL FOR POSTDOCTORAL STUDY IN EUROPE.

In considering candidates for the Moseley Travelling Fellowship, the Committee on Fellowships in the Medical School will give preference to those Harvard Medical School graduates who have —

1. **Already demonstrated their ability to make original contributions to knowledge.**
2. **Planned a program of study which in the Committee's opinion will contribute significantly to their development as teachers and scholars.**
3. **Clearly plan to devote themselves to careers in academic medicine and the medical sciences.**
4. **Individuals who have already attained Faculty rank at Harvard or elsewhere will not ordinarily be eligible for these awards.**

The Committee has voted that within the funds available the amounts awarded for stipend and travelling expenses will be determined by the specific needs of the individual.

There is no specific due date for the receipt of applications or for the beginning date of Awards except that the Committee requests that applications not be submitted more than 12 months in advance of the requested beginning date and in any event not later than December 31 of any calendar year. The Committee will meet once a year in January to review all applications on file. Applicants will be notified of the decision of the Committee by January 31.

Application forms may be obtained from, and completed applications should be returned to:

Committee on Alumni Fellowships in the Medical School
Harvard Medical School
Building A — Room 414
25 Shattuck Street, Boston, Massachusetts 02115

ARTHUR D. BALDWIN

WHALE WATCHING AND OTHER WONDERS

A physician finds work aboard a tall ship to be the height of adventure

A three-masted sailing ship breaks out a series of square and fore-n-aft sails as she clears the docks of San Juan, passes the old Spanish fortress on El Morro peninsula, and heads out to sea. I am aboard, signed on as a volunteer crew member. Within an hour a squall threatens, and rain briefly pelts the deck. I have been in the rigging only once, at dockside, but now the regular crew needs help and I find myself on a footrope far out on the lowest yardarm, reefing sail twenty-five feet above the bounding blue.

It now seems like a fantasy, but it was very much for real. For most people, adventure means merely moving out to new and novel environments. But travel itself is only passive recreation. True adventure is a work experience; to qualify one must actively contribute something of oneself.

Arthur D. Baldwin '36 is director of screening of the MR. FIT program at the Harvard School of Public Health.

The barkentine of my adventure, the *Regina Maris,* participated in the 1976 Tall Ships celebration. Now, two years later, she was equipped as a research vessel, bound for an area forty-five miles off the north coast of the Dominican Republic where three sea mounts rise out of the depths to present coral reefs in waters only 30-150 feet deep. In these warm waters, humpback whales from the North Atlantic congregate in late winter to mate and calf.

For this trip the *Regina Maris* was carrying a full complement of thirty-six people: her regular crew of ten, led by master Dr. George Nichols; a team of four marine scientists; seventeen undergraduates assembled from various colleges; and four "Earthwatchers," including myself. Our small contingent had joined the whale and oceanographic watch through an organization called Earthwatch Expeditions, Inc., of Belmont, Massachusetts. The purpose of this cruise is inferred by the name of the ship's owner, the Ocean Research and Education Society of Boston; we were, in effect, a floating university, and the temporary personnel were expected to share in both the operational and scientific chores.

With waterline measurements of 103 by 26 feet, the *Regina* requires teamwork as a first priority. I found no prima donnas and no grousing during my two weeks aboard — and as a landlubber I provided ample occasion for the crew to blast off. But instruction was patient and unfailing, including even the simple knot tying and the confusing array of lines by which the sails are set.

The amenities of living on an old-time sailing ship are of necessity limited; don't choose this venture if you must have conventional flush toilets and running hot water. Nor is there silence or regular hours for sleep. We lived by the time-honored ship system of a continually advancing work shift, with four hours of deck duty and then eight hours off.

But what compensations! Who familiar with maritime history wouldn't jump at the chance for an hour at the helm, steering by compass a three-hundred ton craft in a spanking breeze! Sometimes this would be done with the vessel under power, but more often with the sails billowing through a sunlit — or star-studded — sky. Astronomy had never interested me, but at sea the brilliance of the stars commands attention. The Dipper stands on its handle. Orion burns with intensity. The Southern Cross pokes above the horizon.

At night the lookout is posted on the roof of the forward housing, used otherwise as a laboratory; but during the day the watch is at the glorious elevation of the upper topsail yardarm. Everyone going aloft is required to use safety harness with restraint rope and hook. After one has adjusted to the motion of the ship, the additional movement up top is not troublesome in average weather.

Napoleon declared, "An army moves on its stomach," and the provisioning of the *Regina* skimped on nothing, with the quality of the food prepared by an attractive young lady rating high marks. Yes, women's lib has reached the sea: four of the regular crew were women, all of them thoroughly capable and efficient aloft. Additionally, George Nichols' wife

Ann and their six-month-old son Pierce were aboard, an experienced and a "good" sailor respectively.

Scientific activity ranged from concentrated focus on the humpback whales to microscopic study of the minute creatures, collectively plankton, screened at various depths from the sea in widemouth tapered nets. A host of environmental observations proceeded simultaneously. Students were most involved in these programs, but volunteers had a chance to participate too. My contributions included keeping ongoing recordings of the direction and speed of ocean currents when we were anchored.

Sightings suggest that, after twenty years of protection, the humpback whale is making a comeback from the edge of extinction. Some mornings we marveled at periods of nearly continuous whale activity. Scientists are not certain of the significance of their spectacular breaching — when the massive, 50-foot bulk is hurled into the air, sometimes in a spiral, to fall back with a resounding smack and a geyser of foaming sea water. Other acrobatics of the humpback (which Herman Melville called "the most frolicsome species") include deliberately waving their tremendous flukes in the air ("lobtailing") and swimming on their sides with long white flippers waving wildly about. Young whales copy adults in the breaching maneuver.

Humpback whales have another unique characteristic. In southern waters they give forth eerie, repetitive songs, which when taped and analyzed show some complexity and sophistication. Our scientists, equipped with inflatable rubber boats and hydrophones, would try through triangulation to identify individual whales in the vicinity as the sources of particular songs.

There was also limited observation of flying fish, dolphin mammals, turtles, and the fabled, colorful dolphin fish; but we discovered a surprising paucity of sea birds on the banks. Except for an errant cruise ship ablaze with lights one night, we saw no shipping until, one morning, a small native fisherman's sail came bearing downwind on us as we were anchored. Manned by four men in ragged attire, she circled our stern and dropped sail. One of the men stood on the prow, speaking in Spanish and rubbing his belly. A Venezuelan student on our crew confirmed for us that they had a man aboard with stomach pain.

With a dory as ambulance the man was brought to the *Regina* where, on the poop deck, I examined and held consultation with Dr. Nichols. He had diarrhea as well as pain centering in the left-upper quadrant. Red tide poisoning was ruled out since all four crew members had eaten the same barracuda. The abdomen was soft and silent, the pulse 72, blood pressure 120/70, temperature 100.2 F. Further inquiry revealed heavy alcohol consumption up until the last ten days.

The author is shown weighing the merits of fee-for-service, Caribbean-style.

Tentative diagnosis: subacute pancreatitis. Soda bicarb and codeine sulfate were administered and the man was advised to return to shore. The incident brought to mind the quotation from Hippocrates that appears on the wall in the Medical School quadrangle. To paraphrase: Life is short and the art long; communication poor, surroundings unstable, the occasion instant, diagnosis difficult, and the outcome unknown.

After returning the patient to the fishing smack, the appreciative men made a touching gesture, a gift of payment in kind — a three-foot, brightly colored red snapper, which soon found its way into a fish stew for the whole crew.

Another "gift" of the sea we came upon was an orange, fifteen-foot, expended U.S. Navy target missile. This piece of jetsam had twin nozzles in the after-burner for fuming nitric acid and toxic amine, as well as danger warnings in several languages. Afloat so long, it was encrusted with barnacles. Our ship's engineer saw to it that the object did not remain intact as a navigational hazard.

Time passed quickly with scientific seminars on marine mammalogy and instruction in the history, principles and practice of celestial navigation by Captain Nichols. George proved to be a quiet, effective, respected leader with great competence in ship handling. He is fully immersed in the challenge of funding and operating this exceptional facility for field research.

As for my working and learning experience — what I did not learn was obvious. It took younger minds than mine to fix in two weeks the names and rail locations of belaying pins of the many lines by which the sails are adjusted, all to the coordinating commands of the mate on watch. Nor did my exposure to navigation theory and a trial with the sextant result in working capability. I now appreciate the never-ending maintenance work that occupies the crew of wooden ships — the "tarring, greasing, oiling, varnishing, painting, scraping and scrubbing" emphasized by R. H. Dana in writings of the sea.

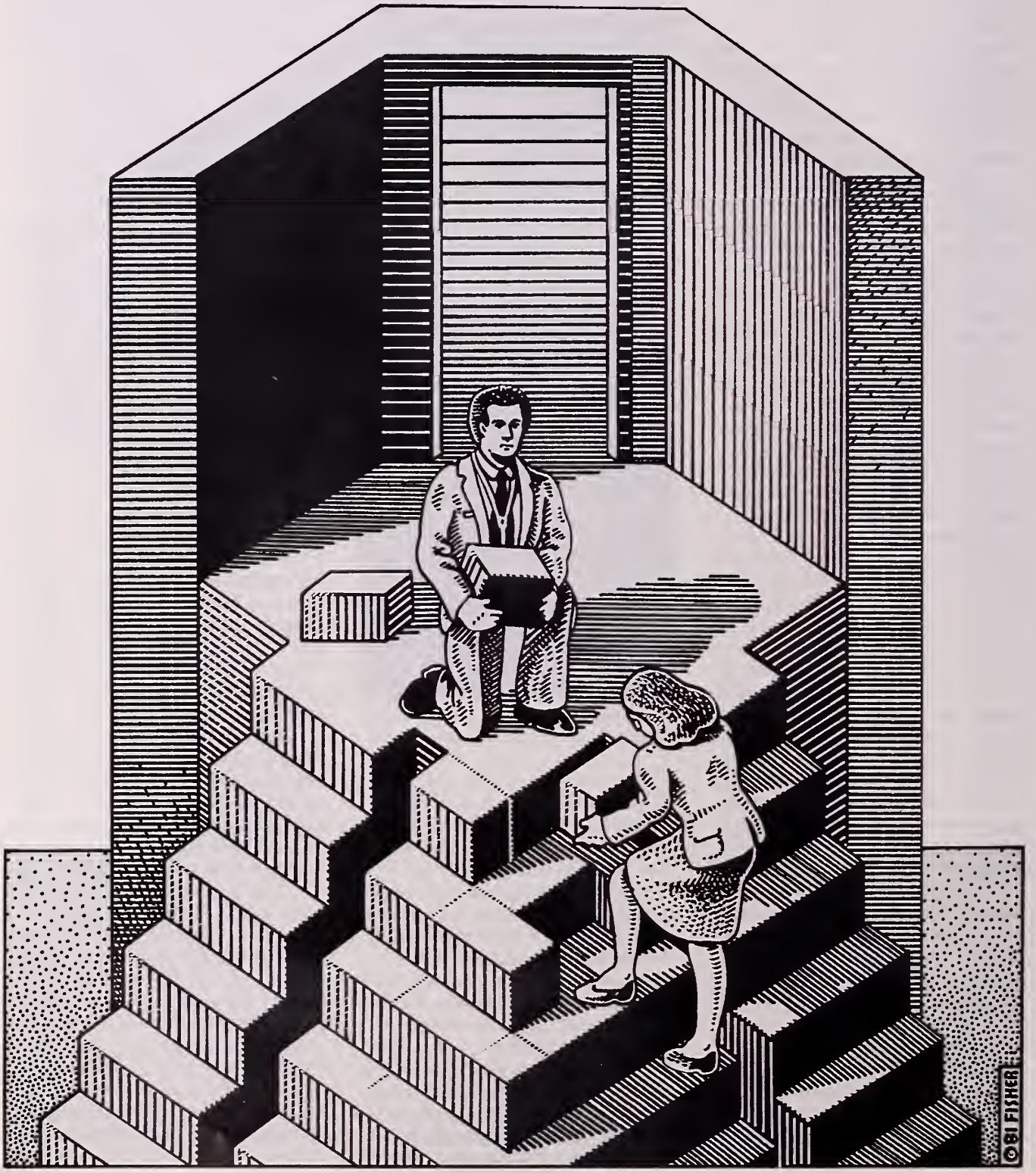
I did find, however, that I could absorb and enjoy the fund of information and exchange of ideas on the scientific side, that I could relate to the interests and talents and excitement of the college students; and these are associations that will never fade.

I developed a feeling for the sea, if an unbalanced one. Although its stormy aspect never appeared, respect could be gained from the trough of the swells while swimming alongside the ship. A place of action, beauty and surprises! Rhythmic waves driven before the northeast trades, long windrows of Sargassum, low cumulus clouds marching rank-on-rank to the blue horizon, and a few final moments of suspense as the sun sinks into the watery void. □

STEPHEN HOFFMANN

INTRODUCTION TO ETHICAL MEDICINE

A Student Examines Life on the Wards



My first real awareness of the ethical aspects of learning medicine had a sudden onset. It came, appropriately enough, during the Introduction to Clinical Medicine. I was walking down a corridor in the Mass. General when I nearly collided with my preceptor, who explained that he was rushing off to the emergency ward to examine a patient with a particularly interesting cardiac condition. He invited me to come along, and introduced me, with several curious interns and residents, to an elderly woman whom he had been looking after. No special friend of the teaching hospital, she looked at us askance and stated firmly, "I don't want any interns or residents around right now to examine me." The house officers cast hurt glances toward the physician, who motioned simply for them to leave. I, in turn, began to shuffle away; but he indicated that I should stay. As I put my stethoscope to my ears the woman peered at me and asked if I was an intern or a resident. I said, "No" — truthfully, but with a grin. "Very good," she said. "Go right ahead."

Acute uneasiness in the wake of that experience has been succeeded by chronic concern. Having been a student on the wards for nearly two years now, I have been impressed with the many ethical questions, both expected and unforeseen, that confront the would-be provider of care. I do not propose to discuss the dramatic ethical issues that preempt the limelight of public and professional concern today: the ethics of ending fetal life, of acquiescence to the dying individual's wish to hasten death, of conducting human studies, of undertaking genetic manipulation. Such dilemmas are of Olympian proportions, and I have neither the experience nor the space to do them justice. Instead I shall examine matters that — though ostensibly less important — are equally if not more relevant to us who are students. These are the everyday decisions we make and the activities we undertake in the clinics or on the wards, some of which do not ordinarily "present" to us as issues deserving of ethical scrutiny. It was with these seemingly mundane experiences in mind that I searched for a title and in recalling that powerful Socratic assertion — the unexamined life is not worth living — that I found it. I chose it also to suggest that we take a closer look at what is at the heart of so much of our medical thinking: the notion of examination as it applies to the ideal of the best possible care.

In medicine, we have at our disposal elaborate protocols for the physical and laboratory examinations of patients, for the examination of our knowledge base, and even for the examination of our ability to execute procedures safely and accurately. What we lack are comparably well defined methods to assess the ethical aspects of our relations with the people we are caring for. Is our behavior ethically sound? That is, is it consistent with a set of moral values whose validity we can debate, and thereby potentially improve? It is curious, but understandable, that when we lack a protocol for operation within a given realm, we tend to neglect or devalue it. This seems particularly true with respect to the ethical dimension of human care — and is especially dangerous for the protocol-minded medical student, whose abiding professional attitudes begin to congeal in medical school, like a freshly drawn aliquot of blood.

The attractions of the protocol are obvious. We have, for example, a method for performing each aspect of the physical exam. We learn to palpate systematically for an abdominal mass, and as our judgments are either validated or disproved with the repeated exercise of that method, our skills improve. Or we teach ourselves to interrogate arteries with catheters and dye, and perfect the accuracy of our observations with practice. Each method, when used repeatedly, leads to ever better diagnostic skills, for which we are rewarded both by the respect of our colleagues and the frequent improvement of our patients. As a result, physical and laboratory examinations are tremendously appealing. Examinations based on protocols are marvelously positive enterprises.

In contrast, there is no established method for performing an ethical examination. There is no *DeGowan and DeGowan of Ethical Diagnosis*, no *Harrison's Principles of Internal Ethics* to refer to, and there is no clear promise of perfectibility. Few are the conspicuous rewards for ethically thoughtful and consistent behavior, and we frequently fail to appreciate that the undertaking bears importantly on the patient's care. Still, I believe there are methods we can teach ourselves, ethical methods that with practice will lead to improvement in our overall abilities to make people well.

The introductory handshake between a medical student and a patient seems like an innocent enough affair. But concealed therein is the first of many ethical dilemmas that every student must face the moment he or she makes a debut on the floor. Do I introduce myself as Steve Hoffman, medical student? Or Steve Hoffmann, student-doctor or doctor-in-training? Or am I Dr. Stephen Hoffmann, or simply Steve Hoffmann? You may fear that to acknowledge your status as a student is to risk rejection by the patient, who may consider you insufficiently experienced and take a skeptical view of your ministrations. You might argue that to call yourself doctor is to accord yourself more respect and thus put yourself in a better position to pose questions and perform procedures that will increase your knowledge base and expand your repertoire of skills. You might even be led to misrepresent yourself out of sincere concern — hoping to spare the patient the potential anxiety of being treated by a student.

Part of the problem is that as students we often feel compelled to come out of our patient's rooms with differential diagnoses half-formed on our lips. Encounters with patients are overshadowed, at times, by the goal of acquisition. There is a tendency to view the patient as a repository of historical information and somatic data — as merely the incidental vehicle of a disease. Issues of relationship can become secondary.

Ludwig Eichna, professor of medicine at Downstate Medical School, was so concerned about the state of medical education that he recently became a student again and repeated the full four-year course at that institution. Dr. Eichna speaks compellingly of this problem of patient as object. He describes how students are "foisted" on patients in the students' first years, and he contends that "in the course of physical diagnosis all attention is focused on what students get from patients; the patients are treated as teaching material." Of house officers, he suggests that, "con-

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Stephen Hoffmann '81 is a graduate of Princeton and a member of the Bulletin*'s editorial board. "Introduction to Ethical Medicine" was adapted from a speech he made to the Boylston Society last fall.*

cerned with their own development they look on patients almost as impersonal means to that end. Students, living day and night with house officers, adopt the same attitude. Faculty on rounds and conferences behave similarly and further fix the concept of patients as teaching adjuncts." He does make one very important point, however, which I wish to underscore: *"Faculty and house staff are not purposeful or malevolent in their disregard of patients as people."*

Nevertheless, despite such pressure, I believe there are other, potentially more serious risks inherent in a relationship based — either covertly ("I'm Steve Hoffmann") or overtly ("I'm Dr. Hoffmann) — on deception. You may go undiscovered in the brief encounter, but you always risk a loss of trust that can threaten the entire climate of care.

Consider this tale, for example, told to me by a friend who works in Building A. She was hospitalized for resection of a tumor in one of the local teaching institutions. The white-coated, equipment-laden woman who performed the initial workup introduced herself as Dr. Smith. My friend suspected that this "doctor" was in reality a medical student. When questioned point-blank, Dr. Smith confessed that she was indeed a student. But the resident who followed on her heels was unaware of what had transpired and persistently referred to the student as Dr. Smith, despite the patient's insistence that she knew the woman was a medical student. My friend told me that from that point on she couldn't help but question the truthfulness of every communication she received from her care-givers. She felt more isolated, more alone with her illness. An overreaction? Perhaps, but then whom are we treating — our patients or ourselves?

Not only do I question the purported advantages of misrepresentation, but I believe there are many, often unforeseen benefits that may come when we introduce ourselves to patients as medical students — benefits that translate into better care and learning alike. If as students we freely admit of our lack of knowledge, we are often privileged to have our patients assume the high role of teachers. They give of themselves and make us the beneficiaries of their diseases.

I vividly recall attempting to conduct an interview with a patient in a psychiatric hospital. I had provided no identity for myself, and was getting nowhere. In exasperation, the patient finally told me: "Dr. Hoffmann, I can't accept you as a therapist if you're only going to be here for four weeks." At that point I explained to her that I was a medical student, and that although I had studied psychiatric textbooks, I couldn't possibly be her therapist. I admitted that I knew very little about the actual experience of schizophrenia and would therefore greatly value her candid descriptions. I, in turn, would try to shed as much light as I could upon her problems. I was soon gifted with a uniquely poignant and eloquent account of a schizophrenic person's world view. Our relationship then became genuine, and we began to make great therapeutic headway.

"How do you balance your need to learn against the patient's need for the best of care?"

Far from being struck by the number of patients who reject the student-doctor, I have been impressed by how many patients are willing to help us learn when we confess that we are only apprentices. We are then able not only to learn more, but also to give more. For the patient there is the prospect of a better medical outcome, and for us, a richer experience of care. We owe these individuals for their acceptance of us.

I am often amazed at the forebearance and graciousness of patients. One woman, whose brachial fossa must have been completely denervated for her to have withstood the repeated onslaughts of my angiocath, astonished me with her encouraging commentary as I tried repeatedly, but each time in vain, to make a productive puncture. I persevered and finally managed to enter a vessel; when a resident sauntered by, the woman smiled at him and with complete aplomb commented on how nicely I had put in the needle. I could have kissed her.

George R. was another of my many patient teachers (this pun, I think, is an apt one). I met George, as he insisted on being called, during the last few weeks of my ward medicine rotation, when he entered to be worked up for chronic cough and hemoptysis. I already considered myself an experienced HMS, and I remember my frustration at having to stand on the sidelines while the parade of specialists filed by to perform their respective errands: bronchoscopy, skin biopsy, bone marrow. All that I had been permitted to do was to schedule the consults, neatly organize and record their data, tap out the level of an effusion by the day, and respectfully submit my pertinent and erudite daily differentials of his problems. Such are the medical student's mainstays.

I had prepared George all along for the possibility of a tumor, and after the "cytologies" had indeed returned the verdict of carcinoma, I was the one who went to him to explain how things were, what he could expect, and what we hoped to be able to do for him. He knew I was a medical student, yet he seemed especially to value my involvement; he had come to associate the specialists, in their unwitting assaults on his body, with his disease.

I grew to know George and his family. I spent time with him at odd hours, often at night, when fears and nightmares precluded all possibility of sleep. I often went simply to talk. It startled me when George began, quite proudly, to call me doctor. I have been called that name many times, but it has almost always lacked meaning or made me uncomfortable. This time, however, the word meant something. I suppose it had to do with my fulfilling a genuine role, ministering to a real need in a way that was in line with my level of training. I was performing the "medicine" that I, as a student, was capable of practicing. To address a patient's anxieties about an illness is often the most important intervention we can provide.

George, bless his soul — for he died in his sleep several months ago — was a valuable teacher. He was in full control of his art. I will never forget making rounds on the day the interns switched. George spied me as I was about to introduce the new team. In his characteristically fustian style,

"I propose that we challenge diagnoses we don't appreciate, therapies we don't understand, and that oft-heard reply: 'Do it because it works.'"

he blurted out: "Good morning, Dr. Hoffmann! I presume that these are the new medical students?"

In the realm of western medicine we have inherited two different but equally compelling traditions of knowing. One is an objective-descriptive, biological-anatomical model of human illness. It comprehends the many and varied symptoms a patient presents by referring them to a lesion. The other tradition is existential, or esthetic. It seeks to discover a private logic for the life of each person; it holds that people must be appreciated for their uniqueness and that certain states of being for now and perhaps forever will elude characterization at the level of the lesion — much as works of art resist objective formulation. One of my teachers has suggested that medicine, the art and science of understanding people, is not unlike physics. In the effort to come to know people and their problems, or to understand matter at the elemental level, any monolithic description breaks down. Human problems have a wave and particle duality; sometimes they are best understood in terms of lesions, at other times on an interpersonal plane. We must be prepared to make use of both traditions.

Another common ethical dilemma confronts every medical student. Imagine that it is two a.m. and the resident with whom you are on call admits a patient, status post-seizure. The resident inquires whether you've ever done an LP. You tell him you've seen one. "Do you want to try one tonight?" he asks. "It's up to you." How do you respond? The issue is clear. When do you perform a procedure for the first time, given the possibility — even the likelihood — that you will be clumsier and cause more pain for the patient than someone more expert. How do you balance your need to learn against the patient's need for the best of care?

We've all heard that reflex response, elicited as easily as an ankle jerk: patients who come to a teaching hospital implicitly consent to the risks associated with the performance of procedures by the less experienced. In return, they are afforded the possibility of better care. I reluctantly admit that there is some truth to this. But the rationale must not be used simply to condone every inexperienced (and sometimes inept) endeavor. We have also heard the injunction: "Above all, do no harm."

It is within our power to alter several of the variables, to decide how many times we will observe a procedure before trying it ourselves, and on whom we will begin, and how closely supervised we will ask to be. Suppose, for example, that a person anxiously confesses, "I absolutely can't stand the thought of having my back punctured. I've had it done twice before, and I'm terrified." Or, on the other hand, suppose you have the opportunity to become initiated on the back of a patient with whom you already have developed a trusting relationship. In his text on medical ethics, Thomas Percival, a nineteenth century British physician, cautioned that "the feelings and emotions of the patients, under critical circumstances, require to be known and to be attended to, no less than the symptoms of their diseases; thus extreme timidity with respect to venesection contraindicates its use in certain cases and constitutions. Even the prejudices of the sick are not to be contemned, or opposed with harshness; for though silenced by authority, they will operate secretly and forcibly on the mind, creating fear, anxiety, and watchfulness." His warning is no less — and is in fact probably more — appropriate for the medical student than for the practicing physician.

A closely related dilemma involves the question of when to perform an examination that will be tiring, embarrassing, or painful to a patient when nothing pertinent to that individual's care hinges on our observations — when we are fulfilling our own educational needs alone, and are second, fourth or maybe even tenth in line. Contrary to a certain perverse point of view that prevails in some circles, that the student exists only to elicit or confirm findings — a mentality that one of my wardmates dubbed "confirmero ergo sum" — our status as students should not be used as a free pass for subjecting people to an auscultation or a hand, willy-nilly. We are operating under a genuine, if ill-defined, contract; we are not licensed to do anything that we would not tolerate or forgive in another. And yet the fact remains that each of us must be able, for example, to recognize confidently the presence of peritoneal inflamma-

"It is within our power to decide how many times we will observe a procedure before trying it ourselves, and on whom we will begin, and how closely supervised we will ask to be."

tion — a life-threatening condition — which requires that we practice eliciting the exquisite pain of rebound abdominal tenderness, which is its hallmark. But when should we examine a belly that harbors infection, and when, on the other hand, should we be content merely to observe and to accept another's word, particularly since we know it is not our lot to make the ultimate decision. How many times do we need to inform our ears and hands?

There are no easy answers to these questions. It is unfortunate but inevitable that we, as medical students, will provoke hurt in our well-intentioned efforts to give to and learn from patients. What each of must decide upon are the limits to our interventions and the appropriate responses in the wake of unintended harm. I regretfully believe that first we must accept that errors, unfortunate though they be, are an essential precondition for our intellectual and emotional maturation as physicians. Patients will suffer occasionally even in the best of hands. I am reminded of a comment made by Dr. Judah Folkman in his commencement address last summer: "You will learn from your mistakes," he told the audience. "Good clinical judgment comes from having made bad judgments."

We ask a great deal of the physician, and of the student-physician. And we should. But we must remember that we are still people who will sometimes fail in the service of even the highest and most binding ideals. We will blow it from time to time, occasionally in truly grand style. We may be curt or cranky with our patients — the courses charted by our private lives are not always smooth, and like other mortals we are affected by the phase of the moon and the cantankerousness of unfed stomachs. We must not be taken unduly aback by our inconstancy. Even the most apparently sensitive or ethical person may occasionally astound us with his callousness, her dishonesty; likewise, the seemingly coldhearted may surprise us with a genuine outpouring of warmth. Such inconsistencies were the great preoccupation of William Carlos Williams, and of others before and after. While the inconsistency of the physician may be one of the most vexatious symptoms of medicine, it is also, perhaps, a blessing in disguise. Good care, I maintain, recognizes and accepts our faults. Medicine would not be a truly human undertaking without them. If we were to dwell on the righteousness of each action, our work would come to a standstill. Each of us must choose his or her own threshold, the point at which we will leave off inquiry and begin to act.

I do not, however, believe that it is acceptable to justify the hurt inadvertently inflicted on one person with the rationalization that our resulting awareness of the possibility of engendering hurt will benefit the next comer. Rather, every effort should be made to return something directly to that first individual. Unfortunately, we are rarely given the opportunity to return in kind, and the search for restitution is not enough by itself. It must flow from something deeper, from an experience of personal hurt for the harm you have brought upon another. I don't wish to seem moralistic. But it is apparent to me that the only ethical response to the inevitability of imposing hurt both in the quest to learn medicine and in its practice is to develop an art of suffering, privately, for the other. I cannot prove this point, but only make an appeal. If suffering has to be motivated through argument then something is amiss.

One final dilemma may come closest to home. What is — and what should be — the station of the medical student within the grand scheme of the system? What is this evanescent species caught in precipitous transition from college student to physician? Every year numerous caterpillar-like HMS students, only premedical larvae a short while before, begin their slow and arudous molting into that beautiful butterfly stage — the house officer! The instant you set foot on the wards you have to ask yourself what your role there will be. One of the most powerful, seductive tendencies is to try to imitate the house officer. Who doesn't remember that heady feeling when you slipped into a white coat for the first time? Or the excitement of making your premier appearance on the floor in white pants that bear the title of the Mass. General or the Brigham and Women's name; of slinging the stethoscope around your neck the way the residents do (hoping it won't slide off when you turn your head); of administering the final rites of tying the pants of your first surgical scrub suit. I remember those moments. And I also recall how those same scrub pants fell right down to the floor in the middle of the OR!

In short, every medical student's at least passing fantasy is to walk, talk, eat, and sleep like a resident (although God knows that any sane onlooker would shake his head in bewilderment at the inscrutability of this wish). The urge is adaptive; it facilitates the intellectual and behavioral transition from student to house officer. However, if the metamorphosis occurs too rapidly and is unexamined, if it is merely mimicry, the student deprives himself or herself of a vital kind of growth. We are individuals, first and foremost, who happen to practice within a common framework of knowledge and therapeutic goals. Diversity within a shared tradition is our great strength. It is our ethical imperative to discover roles that fit, individually, according to our separate consciences.

Resist the urge to hasten this process. Be wary of those

who would turn you into a house officer overnight. Visits also sometimes apply this pressure, but you must reserve your freedom as a student to question and explore and to withhold your commitment to a particular attitude and style. Be miserly with what you would retain and generous with the chaff you pick up along the way. Above all, as you depart for the wards, be true to yourself.

Actively seek out practitioners with different diagnostic, therapeutic, and philosophical points of view. Experiment, within the boundaries of what is fair and appropriate, with your own patients, and in your own lives. It is our prerogative as students to experiment, our privilege to explore; these are also our responsibilities. How to be a doctor isn't taught in medical school. It is an active, ongoing, self-conscious, painful, and eminently personal process, a quest that extends far beyond the required texts and recommended readings, one that begins and ends with you.

"I fear that if disinterested observers were asked to identify the greatest ethical failing of medical school, most would cite the exacting of an inhuman conformity."

I am not only suggesting that we experiment; I propose that we respectfully challenge diagnoses we do not appreciate, therapies we do not understand, and that often-heard reply to our queries: "Do it because it works." We should take issue with behavior that does not sit comfortably with us — that is, with what appears to us as mistreatment or abuse of others, be they patients, staff, or fellow students.

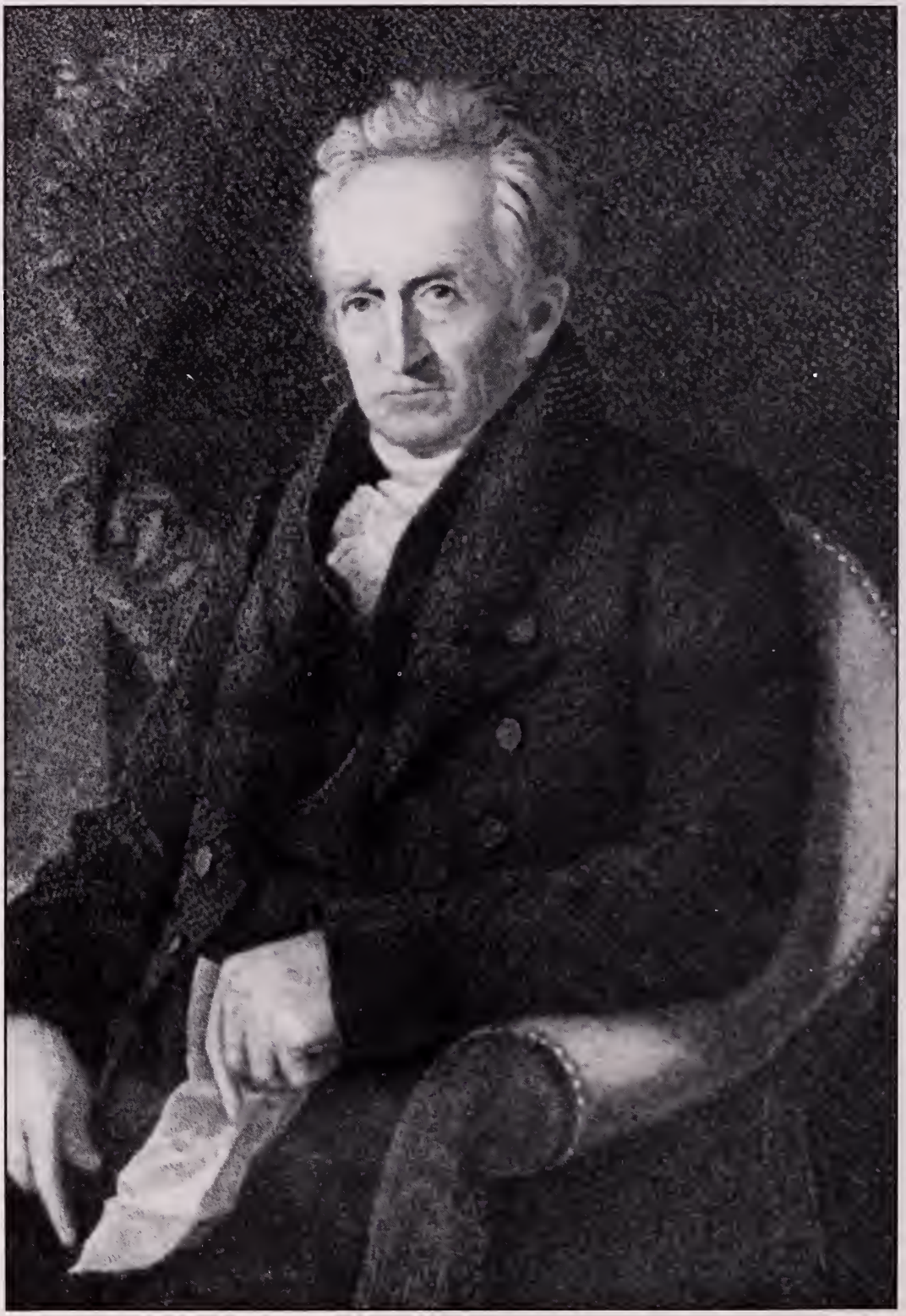
My impression is that the overwhelming thrust of the medical school experience is to satisfy and conform, to walk the narrow but easy path of what is accepted and esteemed. But how are we to know who we are unless we venture, on occasion, to be different? We can do so with tact and humility. Humor is often very effective. I remember making rounds with a particularly petulant visit who absolutely raked a classmate over the coals after he had presented a case. A fellow student, as enraged as I, impulsively withdrew beeper from belt and spoke into it. "Commander to Scottie, Commander to Scottie," he cried urgently. "Things are getting a little hairy down here. Would you beep us out?" A moment of tense silence gave way to laughter and each classmate got a good-natured pat on the back from the gently chastened visit.

Take the time to learn the anatomy of criticism. It will serve us well, but we must be prepared to have even our gentlest queries or remonstrations misunderstood and to accept the penalties that may ensue. These are matters of integrity. I fear that if disinterested observers were asked to identify the greatest ethical failing of medical school, most would cite this exacting of an inhuman conformity of the individuals among us. Our calling will suffer if this ethic goes unopposed.

It is my strong conviction that we can not only learn from our teachers, but serve as their teachers in turn. We are the young and inquisitive, the newly educated and perhaps, often, the especially sensitive. We are not bound by vested interests in the existing system and are free of ongoing and final accountability for patient care. We are uniquely able to ask the questions and to raise the challenges — for those who practice, that they may profit; for ourselves, that we may learn and better ourselves; and finally, for those who succeed us, that they may acquire and enjoy that greatest of privileges — to care sensitively for others. □

GORDON A. DONALDSON

THE LEGACY OF NATHAN SMITH



John Fleet was Number One. The Institute of Medicine at Harvard College had been approved by the Corporation on May 16, 1782, and John Warren and Benjamin Waterhouse were inducted into office as the first professors by President Joseph Willard in formal ceremonies in the Cambridge Meeting House on October 7, 1783. It was not until 1788, however, that Fleet and his classmate, George Holmes Hall, received their M.B. degrees. This was not because they were "slow learners," but was due to the fact that the School was dilatory in organizing its curriculum. Waterhouse had only recently returned from England where, as a Tory, he had retreated during the War; Warren was already involved in giving lectures in surgery to apprentices and Harvard College students at the local military infirmary. Indeed, both Fleet and Hall completed their studies on schedule in the prescribed two years.

Following graduation on July 16, 1788, John Fleet, age 22, immediately settled into a medical practice in Boston. Five years later, at the request of John Warren, he was appointed assistant in anatomy and surgery at the growing Medical Institute, the first such post to be established at the School. At this same time he was awarded an honorary M.D. degree by the College. He was soon elected to the newly formed Massachusetts Medical Society, and in 1798 became its first recording secretary. As both his father and grandfather had been booksellers and publishers in Boston it was natural for young John to become, in 1800, the first librarian of the Society, a position he held until his death in 1813. In its first graduate, an early precedent of societal concern was set at the Harvard Medical School.

John Fleet's classmate, George Holmes Hall, by alphabetical happenstance is recorded as Number Two. He was a native of nearby Medford and an alumnus of Harvard College, A.M., 1781. Following graduation from the Medical Institute he practiced in Worcester for a period of three years, and then removed to Brattleboro, Vermont, where he ran an apothecary shop until his death in 1807.

The memoirs of the third graduate provide a fascinating glimpse of life and times at the School in Cambridge and also in the town of Boston in the years 1788-89. A Frenchman by birth, 45-year-old Pierre de Sales La Terrière had been forced from his twenty-year practice in Quebec province by an edict which required a formal degree in medicine for all practitioners. Accompanied by his brother-in-law he made the long journey by canoe and on foot to Cambridge, where he presented himself before President Willard and Dr. Warren in the summer of 1788. Because of his prior medical studies in Paris under Rochambeau, physician to the Queen, he was able to complete the three required six- or eight-week didactic courses and gain enough additional clinical experience to be granted an M.B. degree in a little more than a year, on July 15, 1789.

Only La Terrière and William Pearson, out of a class of twenty-six students, passed the stiff examination held before the president, members of the Corporation, professors, and any of the practitioners of the town who might want to attend, possibly to embarrass the candidate (and incidentally the professors) with their questions. Thereafter, Pierre de Sales La Terrière returned to Gentilly, Quebec and continued in active practice for an additional twenty-five years.

Little is recorded of the subsequent activities of his classmate, William Pearson. The town records of Gloucester, Massachusetts merely state that he practiced there for a period of only five years.

HMS's fifth alumnus, born in Rhode Island and educated in Massachusetts, helped to found medical schools in Connecticut, New Hampshire, Vermont, and Maine.

Nathan Smith, the fifth person to be granted a degree by the Harvard Medical School, set the pace and established traditions for all subsequent alumni. His exploits overshadow all who went before and most of those who have followed. His impact on American surgery was broader than the contributions of John Jones of King's College or Philip Syng Physick of Philadelphia. In nineteenth century New England he shared preeminence with John Warren, and his teaching and example diffused throughout the six states. In the words of William Welch, a century later, Nathan Smith, M.B., Class of 1790, Harvard Medical School, was "one of the most remarkable men ever to adorn the medical profession."

Smith's ancestors migrated from Hargham Hall, England, to Hingham, Massachusetts aboard the *Diligent* in 1638. Five years later the family of Henry Smith, Nathan's great-great-grandfather, moved from Hingham to the "Newman Settlement" on the eastern bank of the Seekonk River. Research reveals that in 1762 the town of Rehoboth, Massachusetts covered a wide area that extended west to the Seekonk. Subsequently, the town of Seekonk was separated from Rehoboth, and later yet East Providence, Rhode Island was carved out of Seekonk. So that although the popular records state that Nathan Smith was born September 30, 1762 in Rehoboth, Massachusetts, it seems certain that what is now East Providence encompasses the original Newman Settlement; thus Smith was by birth a Rhode Islander.

While Nathan was still a child, his family left East Providence for Chester, Vermont. Life there on the frontier consisted of farming, hunting, and fishing, but no formal education. It is likely that the teaching Smith received from his father, a farmer-surveyor, and his mother, a midwife, was somewhat better than that provided by the backwoods schools of the day. There is no record that Nathan ever attended any of those schools.

During the war of the Revolution, Smith joined the Vermont militia, served with distinction on the Canadian frontier, and was promoted to the rank of Captain in 1780, at the age of eighteen. Following the surrender of Cornwallis, he returned to the village of Chester, where he settled into the position of village schoolteacher. From these origins arose "one of the most interesting and important figures in American medicine."

In 1783 an event occurred that was to shape the course of medical teaching for a century and longer. A local farmer had suffered a compound fracture of the leg while lumbering. Josiah Goodhue, who was to become the most celebrated surgeon of the upper Connecticut Valley, was called from nearby Putney, Vermont to perform the customary amputation. The village of Chester was alive with excitement, and many of the curious gathered at the home of the patient to witness the event. When all was prepared, Goodhue, lacking adequate help, called upon the gathering for a volunteer to hold the injured limb. The young schoolmaster stepped forward, supported the leg, and "even ligated the arteries as they were clamped, and did so without tremor."

Impulsive decisions often shape lives. On the spot, Smith summoned the courage to request of Goodhue an apprenticeship in medicine. The latter wisely advised him to spend a year of schooling with the Reverend Samuel Whiting in nearby Rockingham, Vermont "to improve his education, at least to the point equivalent to that of a Freshman at Harvard College." There followed the customary three-year apprenticeship with Josiah Goodhue in Putney, after which, at the age of twenty-five, Smith crossed the Connecticut River to set up practice — without medical degree — in Cornish, New Hampshire. After only two years in practice, however, aware of his inadequacies and with the encouragement of his loyal friend Goodhue (who had been forced to leave Harvard College because of ill health), the restless Smith closed his office and sold his horse in order to finance further instruction in Cambridge, Massachusetts. This was a big step for the impoverished twenty-seven-year-old practitioner from a small village in the upper Connecticut Valley.

The turn of the nineteenth century marks a major transition in medical education in America. Prior to that time, factual knowledge had been communicated solely from preceptor to apprentice or pupil. But by the end of the 1700s schools of medicine were springing up, often without college affiliations; and it was said that in the early 1800s it was easier to found a medical school than to establish a hospital.

On November 22, 1782 the Corporation of Harvard College, having approved the establishment of a Medical College, named John Warren, brother of the late Joseph Warren, to choose a faculty. Warren was to fill the Chair of Surgery, and Benjamin Waterhouse was appointed Professor of the Theory and Practice of Physic. Having sat out the war in London, where he had studied under the medical leaders of the day, Waterhouse was said to be the best educated physician in America. When he returned to Boston he was an opinionated, cantankerous alien, and ran his department with a firm hand. It was in the Waterhouse home, still standing north of the Cambridge Common, that young Nathan Smith boarded while in school. Subsequently, these two characters carried on a prolonged lawsuit for "trespass" that arose out of a misunderstanding over fees for board and "instruction." The third member of the faculty was Aaron Dexter, for thirty-three years the Professor of Chemistry and Materia Medica. He was said to be "the most scientific chemist" of his day, even though his classroom experiments "did not always come off." It was in John Warren's front parlor on School Street, Boston, in the fall of 1789, that young Nathan Smith presented his credentials for admission, and of the three members of the faculty it was Warren who proved to be the most supportive of Smith.

From the beginning, the requirements for admission to Harvard Medical School were comparatively strict. Thanks to Josiah Goodhue, Smith easily fulfilled the required prior apprenticeship of three years with an approved preceptor. (At a later date a Bachelor of Arts degree or a satisfactory knowledge of Latin and philosophy was also necessary.) For the degree of Bachelor of Medicine from the School, two courses of lectures given by each of the three professors were required. These were usually taken in successive winters, interspersed with thirty or forty weeks of additional preceptor-apprentice experience. Fees were paid directly to the professors, seven dollars per course for anatomy and four dollars each for medicine and chemistry. In the summer preceptorships, provided without charge, professors were assisted by local practitioners.

Harvard College in 1789 consisted of three major buildings, probably Harvard, Hollis, and Massachusetts Halls, "disposed on three sides of a rectangle." According to La Terrière the college was surrounded by a fence except in front, where it faced the village square. Arriving in Cambridge in the summer, Smith was introduced to the librarian, Reverend Isaac Smith, and upon signing a receipt from him, received the books and instruments necessary for his studies. In view of his prior extensive clinical experience, much of Smith's time in Cambridge was given to formal lectures. He probably attended two complete courses, totaling ten or twelve weeks each.

John Warren's fall lectures and demonstrations were said to have begun on October 6, and extended through November 17. Dissection began on October 15. Although most of the courses in 1789-1790 were given in several rooms in the basement of Harvard Hall (not in Holden Chapel, as commonly thought), John Warren gave his lec-

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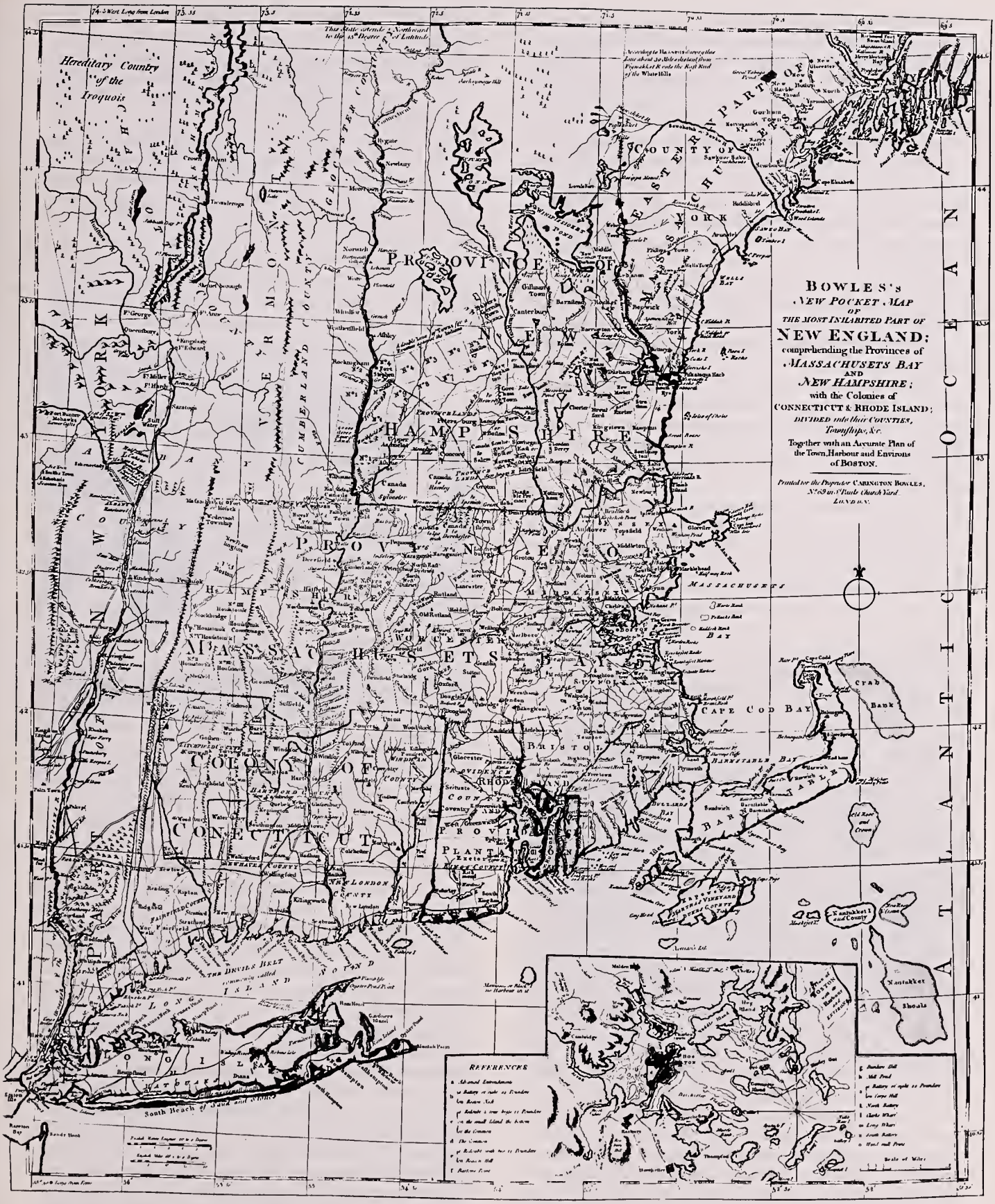
Associate clinical professor of surgery emeritus, Gordon A. Donaldson '35 is past president of the HMS Alumni Association and also a past president of the New England Surgical Society. His biography of Nathan Smith was presented at the society's annual meeting in 1977 and appeared in an article entitled, "The First All-New England Surgeon," in the April 1978 American Journal of Surgery.



This map was published in 1780, the year 18-year-old Nathan Smith was promoted to Captain of the Vermont militia. Forty years later, the "eastern part of Massachusetts" had become the new state of Maine and — in large part because of Dr. Smith's efforts — the map of New England was dotted with medical schools.

tures and demonstrations on accouchement at his home in Boston in a special preparation room. Clinical experience was provided in the almshouse on Park Street and by the several practitioners of Cambridge and Boston. To fulfill his thesis requirement, Smith wrote on "The Causes and Effects of Spasm in Fevers." On July 18, 1790, he presented himself for examination before President Joseph Willard and the professors in the several branches of medicine. In that year he was one of two successful candidates in a class of four. The other was Amos Winship, A.B. 1771, of whom we know very little, except that he removed to Wellfleet on Cape Cod, where he practiced medicine and ran an apothecary.

Returning to Cornish in the summer of 1790, Nathan Smith immediately fell into a busy practice, and with his ability and personality soon attracted a number of promising young apprentices, among them Cyrus Perkins and Lyman Spalding.

Up to this time in the colonies, professional medical thinking had been dominated by the theory that all disease was of a humoral or nervous origin. John Armstrong and Benjamin Rush were the major proponents of this idea; bleeding, sweating, and purging were the common practices of the day.

The opportunities for surgical activity were very limited. Surgical procedures were usually performed only in emergencies, and generally consisted of such things as reducing fractures and performing amputations — operations that even by today's standards would be considered "necessary surgery." Accidents were common in the country life, where injuries occurred while cutting timber, milling logs, and raising houses. Others were related to horses and teams, or to being run over by wagons. An occasional aneurysm was ligated, a skull trephined, a cataract extracted, and a bladder stone removed.

Riznik records that opium, spirits, water of nightshade, henbane and lettuce, "mesmerism," strapping above the level of operation to deaden the nerve supply, and even loud noisemaking provided the only "anesthesia"; thus, operative procedures were often enormous ordeals. The speed of the operator was of special importance, and not all were fast. Wrote one apprentice: "Yesterday I attended upon the amputation of a thigh which operation was performed by the famous Dr. Tudor, and I will say sir, between you and I, had you been present, I believe your bowels would have yearned through anxiety and pity, for the operation was protracted to the incredible length of 40 minutes."

After the Revolutionary War, there was a growing interest in surgery. Increasing numbers of apprentices arrived on the scene, and although much of the surgery remained in the hands of the general practitioner, a few preceptors were able to devote a major portion of their time and skill to surgical consultation. In a survey of six counties (one in each of the New England states) made by Riznik at a somewhat later date, twenty of 896 practitioners — approximately two percent — were considered to be "surgeon specialists." The trend toward surgical specialization was already well under way in England, and English textbooks on surgery and anatomy were becoming available in the colonies. Foremost among these were John Bell's *Discourses on the Nature and Cure of Wounds* (1795), his *Principles of Surgery* (1815), and Charles Bell's *Operative Surgery*. An American edition of the last was printed in Hartford in 1812. The first American text was *Elements of Surgery* (1813), by John S. Dorsey, and the first work on anatomy, *A System of Anatomy*, by Casper Wistar of the University of Pennsylvania, was published in 1811.

Nathan Smith appears to have had in high degree the passion for promoting education that was a hallmark of other New England colonists. He was one of the first to appreciate that medical teaching in New England was inadequate; that more instruction in basic science was needed; and that it was not enough to precept small groups of apprentices, promising though they might be, and turn them out into the community to practice. There was only one medical school in New England, and it was not very prosperous, even under the tutelage of Warren,

At Dartmouth, in his first "settee" of professorships, Smith lectured on everything except how to found a medical school.

Waterhouse, and Dexter. Moreover, many young men found it impossible to attend either Harvard, Pennsylvania Medical College, or the Medical School of King's College, New York, because of their limited financial resources. The creation of a medical school in the interior of the country, where expenses would be greatly lessened, could not fail to broaden scientific knowledge and improve medical care in New England.

In August 1796, after six years in active practice in Cornish and now settled in marriage to Sarah Chase, Smith departed a dozen miles upriver to Hanover and boldly applied to the Trustees of Dartmouth College for a "Chair of the Theory and Practice of Medicine." The college at that time had been in existence twenty-five years. With the support of President John Wheelock, a favorable decision was made by the trustees, but because of a lack of resources it was voted to postpone final action for a period of one year. Smith, undaunted, decided to enhance his prestige in the eyes of the trustees and increase his eligibility for the professorship. He again sold his horse, borrowed

'If my patients had been of the right sort, my business would have been very good; but alas many of them have been poor . . .'

additional money, left his wife and young son, Solon, and spent eight months in study in Edinburgh and London. To nail down the post, he bought and sent back to the college a library of medical books, valued at thirty pounds sterling, and adequate apparatus for anatomy, surgery, and chemistry laboratories. For this he hoped later to be reimbursed by Dartmouth.

Such a man could not be denied, and at a meeting in August 1797 the trustees voted to establish a medical school; room 6 in the lower story of the college was to be equipped with seats for lectures given by Smith. On November 20, 1797, having returned from London four months earlier, he delivered the first full course of medical lectures even before he had been formally appointed professor. These initial lectures were presented in a four-room, two-story house off the Green, known as the "Medical House." (The site of instruction was later moved to No. 10 Pleasant Street.) Smith discoursed on anatomy, surgery, chemistry, and the theory and practice of physic, leading Oliver Wendell Holmes at a later day to comment that Nathan Smith occupied not a chair of professorship, "but a whole settee." His income was derived from the meager fees paid by students and from his own private practice.

In these early years, Smith repeatedly appeared before the New Hampshire Legislature requesting funds for the growing school. In 1803, $600 was granted for apparatus to be placed in Dartmouth Hall. At this time each student was required to attend three lectures daily of ninety minutes each. There were reading periods, and each week two examinations were given. Tuition charges, paid by each student to the professor for the two required series of courses, amounted to $133. The school prospered, and in 1807 as many as thirty-five students were enrolled. Morale was high, and President Wheelock, coming from one of Nathan Smith's early lectures to lead evening prayers in the old chapel, gave thanks as follows: "Oh Lord, we thank Thee for the oxygen gas, we thank Thee for the hydrogen gas, and all the gases. We thank Thee for the cerebrum, we thank Thee for the cerebellum, and for the medulla oblongata."

In 1805 Smith moved both his growing family and his base of clinical practice from Cornish to Hanover. His fame as a clinician was spreading up and down the Connecticut Valley and across New Hampshire and Vermont. He was in demand constantly for the unusual, more difficult cases; and his travels, mostly on horseback, took him over rugged country on roads that were sometimes impassable. Two horses, each capable of 100 miles a day, were in his stable, and he invariably invited his apprentices to accompany him. Conversation on these journeys is said to have centered on the clinical cases encountered on the long circuit. In the autumn, he addressed himself to the work of the more formal lectures. Aside from some help in teaching chemistry from one of his early apprentices, Lyman Spalding, Smith carried the school singlehandedly for thirteen years. In 1810 another of his apprentices from Cornish, Cyrus Perkins, was added to the faculty as professor of anatomy and surgery.

Smith's societal concerns continually took him to the New Hampshire Legislature, where he supported legislation on such issues as the control of quackery and bone setting, and the licensing of cadavers for the anatomy laboratory. In 1809 he requested $3,400 for a new medical building "of brick and stone." The funds were granted on the condition that Smith "give an acre of land for the site and assign to the State his anatomical museum and chemical apparatus." This he willingly gave along with an additional $1,000 to complete the structure, which contained the first surgical teaching amphitheater in New England.

The success of the Dartmouth Medical School seemed assured. In 1814, the study body had increased to 77. Due partly to less stringent admission requirements, partly to the need for less financial outlay, and in large measure to the presence of Nathan Smith, Dartmouth graduated more medical students than Harvard. Visiting in Philadelphia, one of Smith's pupils, Ezekiel Cushing, wrote: "Dr. Smith gives infinitely better lectures on surgery than Dr. Physick, and certainly more useful ones on the theory and practice of physic than Dr. Rush."

Two Smiths are better than one, and the medical faculty at Vermont was endowed with Nathan and his son Ryno.

In 1812 at the age of fifty-one, Nathan Smith seemed well established in Hanover, where he was surrounded by family, friends, and medical students. His graduates had settled not only in neighboring parts of New Hampshire and Vermont, but throughout New England and New York State as well. He was president of the New Hampshire

'Woe unto thee Dartmouth, for thy glory is departing. Dr. Nathan Smith has concluded to move to New Haven.'

Medical Society and had been given the honorary degree of Doctor of Medicine by Harvard in 1811. It is difficult to understand why he should have felt compelled to leave Hanover. He may have been discouraged by the poverty of the state, and certainly was frustrated on more than one occasion by political hassles in the legislature, where he was so often in attendance on behalf of the School. Personal pecuniary motives may have played a role, as he was always in financial straits. Like so many of our best doctors he was inept in business matters, and on more than one occasion was benefited by the generosity of his student and lifelong friend, Dr. George C. Shattuck. In one of his letters Smith writes: "My success has been very great as repects curing, and if my patients had been of the right sort, my business would have been very good; but alas many of them have been poor, and people have no idea of rewarding professional men except by compulsion or being begged. The lawyers compel and the priests beg for pious purposes."

In 1810 Smith was offered a salary of $220 to help establish a medical school in Middlebury, Vermont. Had Dartmouth not countered with approval of the new medical building and the appointment of Cyrus Perkins to assist in teaching, Smith might have left Hanover at that time. His departure to New Haven three years later prompted a loyal Hanoverian, Henry Bond, to lament, "Woe unto thee Dartmouth, for thy glory is departing. Dr. Nathan Smith has concluded to move to New Haven."

Yale's president, Timothy Dwight, initially opposed Smith's appointment there, because Smith had "expressed doubts as to the truth of Divine Revelation" and had been influenced by the writing of the liberal, Thomas Paine. Nevertheless, there was no doubt in the minds of the Trustees of Yale College as to whom they would choose to help them establish a medical school in New Haven. Smith's ability as an organizer was essential. So when President Dwight's candidate, Mason Cogswell, withdrew, Smith became the first Professor of the Theory and Practice of Physic, Surgery, and Obstetrics in the new institution, the sixth of its kind in the country. The admission of his two oldest sons, David Solon and Nathan Ryno, to Yale College in 1813 undoubtedly made the transition easier for Nathan.

Immediate departure to New Haven was delayed, however, by an outbreak of typhoid fever, rampant in the upper Connecticut Valley in the winter of 1812-1813; and it was not until October 1813, that the Connecticut phase of Smith's life began. At Yale the burden of lecturing was shared with Eli Ives, Aeneas Munson, Benjamin Silliman, and Jonathan Knight. In the initial lecture given at the Yale Medical School to the thirty-eight students, Smith traced the history and progress of medicine from the time of Hippocrates forward. He concluded his remarks with sage advice regarding the students' future roles, not only as physicians, but as concerned citizens.

A building at the head of College Street, erected initially as a tavern, provided classrooms for the school. After a short lease this building was purchased along with a considerable tract of land adjacent to the town cemetery — a likely source of cadaver bodies. Nathan Smith had appeared before the Connecticut Legislature to request the $20,000 necessary to acquire the property. This building housed the medical school for forty-five years, until 1859, when it was sold to Joseph E. Sheffield for a scientific school. The proceeds from its sale were used to acquire the present holdings on York Street.

It was at Yale that Smith made his greatest contributions to surgery, as a teacher, practitioner, and politician. He dominated the first two decades of the Yale Medical School. Despite the rigid admission requirements — a Bachelor of Arts degree and a three-year apprenticeship — and the founding of other medical schools in New England,

OBSERVATIONS

ON THE

PATHOLOGY AND TREATMENT

OF

NECROSIS.

THE etymological definition of Necrosis is, the *death* of some part of the bony structure. As technically employed in medicine and surgery, however, it designates a particular form of disease, characterized by peculiar symptoms, and often, generally indeed, terminating in the death of a portion of the bone in which it is located. We may perhaps question the propriety of the above appellation, if it be made to appear, as I shall attempt, that the death of the part affected is not the *necessary* sequel of the disease, although the most frequent. It is the same inconsistency of language that obtains in the application of the term hydrocephalus to those inflammatory affections of the meninges of the brain, which sometimes terminate in dropsy of that organ.

This disease was formerly known in New England under the name of *fever-sore*, given to it, undoubtedly, because it is generally accompanied, from the very com-

Smith's "observations" on necrosis remained a living part of the medical canon for more than a hundred years.

Although built to house guests of Yale College, Sheffield Hall's first tenant was the "Medical Institution." The building acquired a sinister reputation because a tunnel was rumored to lead across the street to the cemetery, and some townspeople believed that this enabled medical students to practice body-snatching.

enrollment at Yale increased steadily. Five professors gave formal courses over a twelve-week period from November to March, leaving the summer months for clinical activity by both faculty and students.

Smith's written contributions to medicine during this period were not imposing in number, but at least two of them are still considered medical classics. His most important paper, "Practical Essay on Typhus (Typhoid) Fever" (1824), based on first-hand observation of patients in Hanover during the winter of 1812-13, relates the first clear description of the disease and its pathology. Long before Pasteur, he pointed out that typhus was due to a specific cause, self-limited, and unlikely to recur. Smith advocated cold water and milk treatment, and — challenging the great Benjamin Rush — urged the avoidance of purging, sweating, and the use of the lancet to reduce fever. Little else was to be addeded to the treatment of typhoid fever until the advent of antibiotics.

His treatise, "The Pathology and Treatment of Necrosis," also became a classic. Osteomyelitis was a disease of considerable frequency at that time due to the prevalence of trauma and of typhoid fever; amputation was the accepted treatment. In an essay that placed Smith generations ahead of his time, he provides admirable descriptions of the symptoms of osteomyelitis and advocates the initial drainage of pus "at the right time," and the later removal of sequestrum by division and extraction, as well as the need for postoperative splinting. "The object of every case is the same," he wrote, "that is to remove a piece of dead bone, which has become a foreign body as it relates to the living." As Smith's teaching spread, many limbs were saved; and only after the discovery of antibiotics were any major changes made in the treatment of this disease.

In clinical matters, Nathan Smith's counsel was sought all over New England. In Norwich, Vermont on July 5, 1821, he removed an ovarian tumor from a Mrs. Strobridge and thus became the second surgeon in this country to perform this daring operation. Ignorant of Ephraim McDowell's feat in Danville, Kentucky eight years earlier, Smith had been encouraged to operate by an autopsy he had performed that showed him a similar tumor, "adhered to no part except the proper ligament, which was no larger than the finger of a man." Unlike McDowell, he dropped the pedicle back into the abdominal cavity, instead of suturing it to the abdominal wall.

He was the first in this country to perform the operation of staphylorrhaphy for cleft palate. He operated widely for cataract, was expert in trephining the skull, and introduced a new method for fashioning the skin flaps in amputation of the thigh. He contributed ingenius ideas and apparatus for the treatment of fractures of the extremities. Long before Bigelow, he discovered, by an accident of his ever astute observation, a new method of manipulation for reducing dislocation of the hip joint. Urinary bladder stones, prevalent at the time, provided continuing challenges to surgeons, and lithotomy was the major operation of Smith's day. Smith, however, recorded but two patients lost in thirty-two such procedures; and none of his patients ever succumbed from hemorrhage during an operation. In the view of William Welch at a later day, Nathan Smith's influence made itself felt not only throughout New England, but the entire country as well; "he shed undying glory on the Yale Medical School."

Only in the winter months was Smith occupied in the formal teaching of courses. In June 1820 the First Legislature of the new State of Maine (separated that year from Massachusetts) passed an act that established and liberally endowed a new Medical School at Bowdoin College. The president of Bowdoin, Reverend William Allen, had proposed that Nathan Smith head the school. Smith, who had always firmly believed that medical schools should be founded only in established universities, in contrast to the proprietary medical colleges so common during the nineteenth century, responded with enthusiasm: "I think with what experience I have had we could form a medical school that would, in point of real utility, equal any in the country. In a new state like Maine, where neither habit nor party have laid their ruthless hands on the public institutions, and where the minds of men are free from their poisoning influence, everything is to be hoped for. Such a field would be very inviting to me, and such a place I take Maine to be." The newly elected Allen later admitted that

without the powerful support of Nathan Smith, he would never have undertaken the establishment of a medical school.

The Medical School of Maine was opened in the spring of 1821, and the first classes were held in Massachusetts Hall. The ten to twelve weeks of formal lecture courses were arranged to begin in late February, after Smith had completed his series at Yale. He delivered all of the lectures himself with the exception of chemistry, a subject adequately covered by the course given in the college. For the next four years he traveled each spring from New Haven to Brunswick to teach, gradually delegating one after another of the subjects to personally trained successors. Twenty-one men attended Smith's lectures the first year, two of whom were able to graduate in 1822. A year later the enrollment had increased to forty-nine, sixteen of whom later received diplomas. At the time of Smith's death eight years later, Bowdoin and Castleton College, a proprietary school in Castleton, Vermont, each graduated more doctors than any of the other schools in New England.

In 1825, at age sixty-three, Nathan Smith's teaching and active consulting practice at New Haven made it necessary to decline lecturing in any other institution, but not before he had contributed to the founding of a fourth medical school in New England. As early as 1814 the Trustees of the University of Vermont had enlisted his help in the Vermont Legislature to prevent the establishment of a medical school at Castleton. The effort failed and this particular proprietary school flourished. Dr. John Pomeroy, who for many years had taught apprentices in his private practice in Burlington, was formally appointed to the Vermont faculty in 1804. Having no classroom he first taught in his office, and later moved to an empty storehouse on Water Street. He gave his first lectures in anatomy and surgery in 1814. Seven years later the Medical School of the University of Vermont was formally established and Pomeroy became the professor of surgery.

Ryno Smith, second son of Nathan, fresh out of Yale Medical School and endowed with much of his father's zeal and enterprise, settled in Burlington in 1820. Within a year he was named the first professor of anatomy and physiology, and his father was invited to be special lecturer in surgery. While still discharging his duties at Yale and Bowdoin, Smith traveled to Burlington in the summer of 1822 and not only delivered a course of lectures but also provided advice on the organization of the faculty. The first complete course of regular lectures was given during that autumn, and the first class, which graduated in 1823, consisted of four students. Two years later a class of fifteen graduated; and in 1829 a building for the exclusive use of the department was erected at the south end of the college green.

In the early nineteenth century all medical schools still lacked facilities for clinical teaching, and the intimate pupil-preceptor method, which often took place on horseback or in "that most sociable of vehicles, the one horse chaise," was to continue for years. There were a few almshouses in the major cities, and some private hospitals were opened — a number of them by students of Smith — such as Twitchell's in Keene, Abbe's in Litchfield, and Gallup's in Woodstock. But these institutions were inadequate for teaching, particularly as surgery emerged as a specialty and medical school graduates began to return for a year or two of special study with such men as Warren in Boston, Smith in New Haven, and Physick in Philadelphia. Hospitals were needed for teaching as well as for patient care, and the medical leaders of the day, including Nathan Smith, saw this need. As a result, public institutions such as the Philadelphia General (1782), The Massachusetts General (1811), the Yale New Haven (1830), and the Butler of Providence (1841) came into being. The apprentice-preceptor base was to move to a hospital setting. In the New England area, and perhaps in this country, no man contributed more than did Nathan Smith, not only to the birth of surgery as a specialty, but to the early evolution of the medical teaching institution.

No evaluation of this remarkable man would be complete without mention of his family. He had five daughters and four sons; all of his sons graduated from the Yale Medical School, and nine grandsons, six great-grandsons, and at last count one great-great-grandson entered medicine. Ryno Smith, in addition to aiding in the establishment of the school in Burlington, was a co-founder with Dr. George McClellan of the Jefferson Medical College in Philadelphia. He subsequently was active in the early days of the Transylvania Medical School in Kentucky and later of the University of Maryland, where he became a legend in his own right. A grandson, Alan Penniman Smith, was an incorporator of Johns Hopkins University; while others in the Smith dynasty at one time or another were active at Yale, the Columbian University in Washington, D.C., and the University of Maryland.

Little is known of Sally Smith or of the five Smith daughters. One report states that, "Like all good wives in previous generations, Sally Smith is obscure in the shadows of history." Nathan apparently thought she was "the best of women the world affords," and he always asked her advice on things of importance.

Smith in his later years is described by William Allen of Brunswick as "a large man, a little clumsy, and of a somewhat shambling gait. His countenance was expressive and genial, and his speech and movement slow. He feigned an air of indifference, and there was no show of learning or brilliancy, or assumption of dignity or superiority. In judgment he was quick, clear and sound."

For the three years prior to August of 1824, Nathan Smith had served on the faculties of three widely dispersed medical schools. In that month he traveled to Burlington to give a six-week course in surgery — "the last time probably," he wrote, "that I shall leave New Haven for the purpose of lecturing in any other place." The fifth alumnus of Harvard Medical School died five years later, having contributed as much as any man to the birth of surgery as a specialty and to the early evolution of the medical teaching institution in this country. □

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SAMUEL L. STANLEY, JR.

LAST NIGHT ON

Fighting for the life of an African couple's only child was this medical student's rite of passage.

For thirteen straight days I had had night call responsibility at the Albert Schweitzer Hospital and now it was my last night on. It had been a tough two weeks. More often than not, sleep had been interrupted by a knock on my door and a pale yellow lantern light outside my window that signaled an emergency. I would arise, greet the *infirmier* and the escort (for no one in Gabon walked alone at night); then we would trek, single-file, up one hill and down the other to the pediatric clinic.

There I could almost always count on finding a very sick child. Diarrhea with dehydration was by far the most common problem. The histories all tended to sound the same, and the decision was usually whether to hospitalize or not. In some cases the choice was clear-cut. A lethargic baby with glazed eyes, a feeble cry and skin so flaccid it could be twisted and stretched. Instant infant: Just add water and electrolytes.

I had spent so many three a.m.'s leaning over one of those concentrated kids, 23 butterfly in hand, praying for a vein. The hospital's power having been shut off hours ago, a Gabonese *infirmier* would hold a lantern over the child, and the parents would watch quietly in the dark background as I struggled. Sometimes I would succeed; the vein would hold and the fluids would start to run. Sometimes multisticks would fail, and I would be forced to pass an NG tube and provide fluids *goutte à goutte* (drop by drop), hoping the mucosa would still absorb. Later in the morning, with the benefit of natural light, another attempt to place the IV would be made.

I was hoping for a quiet night, that last night. I wanted my service to end uneventfully, and evening rounds suggested this would be the case. Only one child, the daughter of an *infirmier*, appeared to be seriously ill. The child had measles with complicating bacterial pneumonia and diarrhea. She was dry, her once fat cheeks now sunken, and she was tired, with no strength to take fluids by mouth. Jacqueline, a 34-year-old Swiss pediatrician, had tried unsuccessfully to start an IV on her earlier in the day, finally resorting to a *goutte à goutte* instead. The mother, a relatively new *infirmier*, was nevertheless knowledgeable enough to recognize that her child was quite sick. She was scared, and so was I. But aside from this child, the remaining thirty or so patients looked stable. Perhaps I would be able to work on my hypertension study, or, even better, spend an uninterrupted night in bed. The thought was intoxicating.

I left for dinner in that optimistic state of mind, but when I arrived at the dining hall and saw neither Jacqueline nor the surgeons, my spirits began to sink. I soon was informed that a woman in her eighth month of pregnancy had started to bleed, and an emergency Caesarean section was in the works. When I arrived at the OR the delivery had just been completed,

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In 1979 Samuel L. Stanley, Jr. '80 spent three months at the Albert Schweitzer Hospital in Gabon. His current training ground is the MGH department of medicine.

and mother and baby — all 31 weeks of him — were doing fine.

Jacqueline and I drove to the clinic with the *Maria,* our seasoned Land Rover, in a sedate second gear to avoid jostling the aluminum-foil-swathed bundle of joy. On arrival our patient was swaddled in layers of clothes and blankets and put in a small crib next to the star of the clinic, a 990-gram premature infant who had been painstakingly nursed to 2 kg. by the clinic staff. The newcomer, though somewhat heavier to start out with, was still quite frail.

We passed a miniature NG tube for feeding, and discussed strategy. Jacqueline then spoke to the father. He was older than the usual Gabonese parent, perhaps in his late thirties or early forties, and was quite well dressed. He listened carefully to Jacqueline and seemed to perk up considerably when told that the child's chances for survival were good. He could pick up the infant, Jacqueline said, and the man nodded but made no effort to close the three-foot space separating him from the crib. The infant looked so small, so fragile, perhaps he was simply afraid to touch it. Instead he sat on a nearby cot, eyes locked on his son.

I later learned from Jacqueline that this man and his wife had tried to have children for a number of years. An earlier pregnancy had also been associated with heavy bleeding and had to be terminated. As medically indicated, a tubal ligation had been performed after the Caesarean to prevent future pregnancies.

Before leaving for rounds, I took one last look at the infant and suddenly felt a little uneasy about his breathing. His nostrils were flared, and as he exhaled an occasional weak grunt could be heard. His respiratory rate was 50/minute — fast by any standards. Jacqueline and I, agreeing on the need to start some low-flow oxygen, placed a small mask made from a funnel on the infant's face. Breathing appeared to improve, and I left with my anxiety somewhat allayed.

The ward floor was quiet, although the condition of the *infirmier*'s daughter had worsened. In spite of the mother's efforts to force breast milk, the baby lacked the strength to suckle. I tried to start an IV but was unable to find a vein. She needed a cut-down, so I made arrangements to have the OR ready, a nurse present, and the electrical power left on past 11:00 p.m. I then collected the infant and mother and drove the three-quarters of a mile to the operating block.

As I walked into the OR complex the phone in the side room was ringing. One of the *infirmiers* in the clinic had called to say that the new infant had stopped breathing. I gushed out a flood of orders: Stimulate the feet, get the "ambu" bag with oxygen on him, get a suction ready! I sped out the door, pausing only long enough to tell the *infirmier* calmly holding her sick baby to call Jacqueline to meet me at the clinic. I gunned the *Maria,* screeching tires around the corner, flying up the large hill, barely in control. As I rounded the curve into the downslope that led to the clinic, I remembered belatedly that the *Maria*'s brakes were notoriously bad. It rocketed down the hill, my feet pumping on the brakes to no avail. A yank on the parking brake caused the Land Rover to slow a little, but still it sailed by the clinic entrance and headed for the dark Ogoué. Finally, it came to rest twenty yards from the river.

I sprinted to the clinic and down the tile corridor to the nursery to find one *infirmier* firmly holding the oxygen funnel to the infant's mouth while the other methodically stroked the child's feet. I grabbed the "ambu" bag, attached the oxygen and frantically began to bag. At the same time my fingers pressed on the tiny sternum trying to restore circulation. His color was surprisingly good and a faint heartbeat was audible.

Jacqueline arrived and expertly suctioned the infant, who responded well. I could now hear a strong heartbeat so I stopped pumping. He was stabilizing. Jacqueline told me to continue bagging while she prepared an umbilical catheter. We passed it effortlessly, but under less-than-sterile conditions. We gave bicarbonate to counter potential acidosis, and glucose in case of hypoglycemia. When the bagging was stopped, the infant began to breathe spontaneously.

The father had been present throughout our struggle to save his son. With my eyes fixed on the distressed infant, I never knew exactly what the man did during those

twenty-five minutes. Did he pace, turn away, or make some attempt to help — an attempt that we failed to notice while immersed in our resuscitative effort?

The infant now seemed stable, so I returned to check on the *infirmier*'s daughter in the OR. The surgeon had placed a lifeline in her and she looked better already.

Back at the clinic a crowd had gathered outside the premature infant's room. He had apparently stopped breathing again. We went through the same manipulations as before; but this time, though his heart beat soundly, he did not breathe spontane-

ously. His pupils reacted to light feebly, if at all. I strongly suspected that the infant had suffered brain damage from hypoxia and would probably not regain spontaneous respirations. Jacqueline expressed the same fear, but added that she had seen several infants in similar conditions who had recovered. We devised a strategy: two *infirmiers* and I would alternate bagging the infant in one-hour shifts all night long, checking for a heartbeat every fifteen minutes. The *infirmiers* would take the first two shifts.

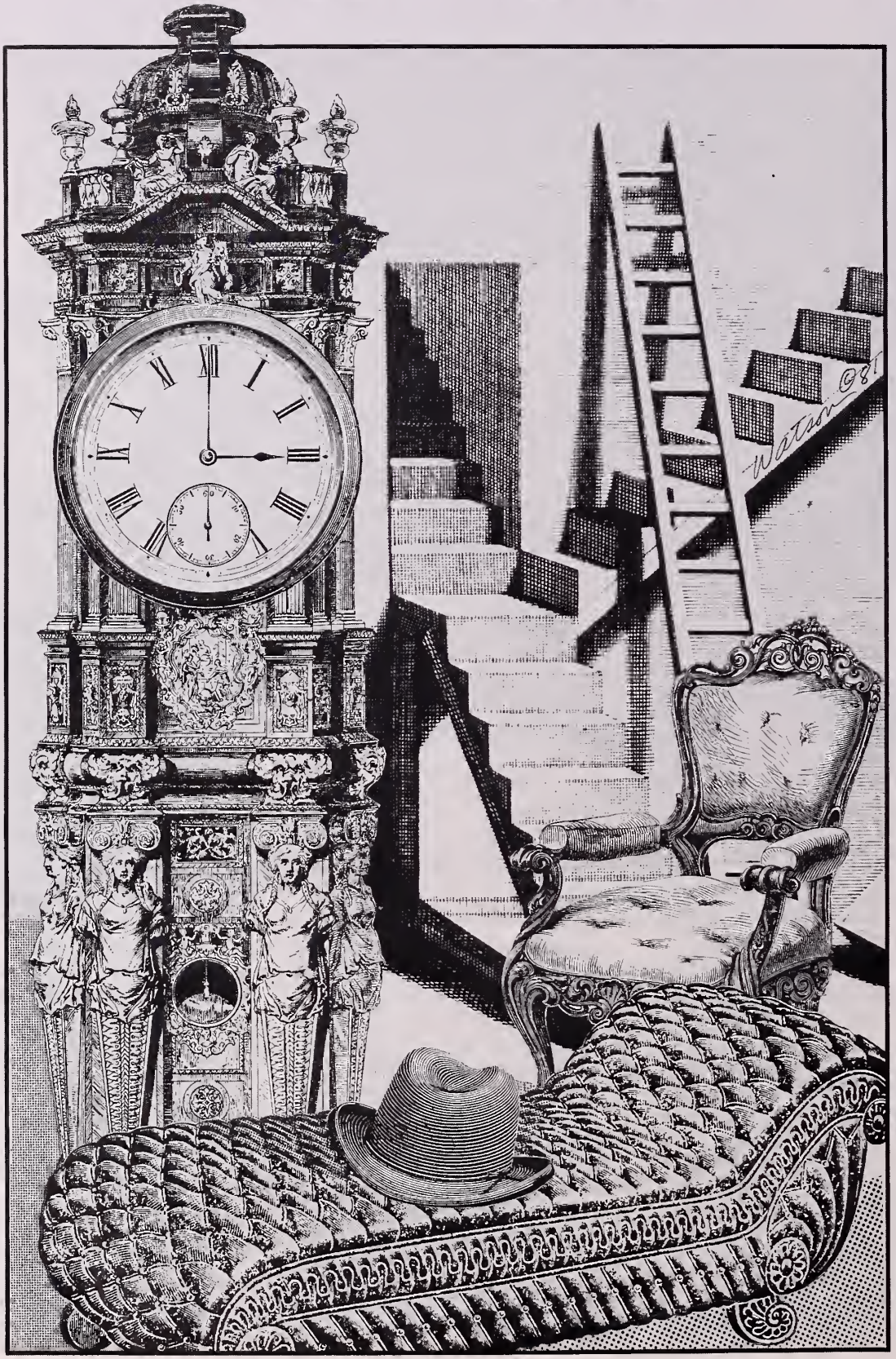
I returned to the premature infant's room at 3:00 a.m. As my hands methodically squeezed the black bag and my ears strained to hear the faint heartbeat, I was overwhelmed by the hopelessness of the situation, feeling that my efforts were only prolonging the agony for all. Mercifully, the father had fallen alseep sitting on the cot, his head buried between his knees.

Finally, just before 5:00, I could no longer detect a heartbeat. I listened hard and long, stopped bagging, listened again, then slowly removed the mask from the infant's face. I turned to the father and gently shook his shoulder. As he awoke, a look of confusion was replaced by one of sad realization. "It's over," I said, "the child is dead. I'm terribly sorry."

He rose and, at last, crossed the three-foot chasm to the crib. Slowly, tenderly, he touched his child for the first time, removing all the blankets and coverings. I detached the IV and watched as he clumsily but carefully dressed the infant in the tiny clothes he had brought: shirt, pants, a yellow knit jumpsuit. Finally, he wrapped his son in a clean blanket and picked him up. At the door of the clinic he shook my hand and thanked me for all I had done. I could only mutter another "I'm terribly sorry." He walked out the door into the night. As I returned to my quarters it was 6:00 a.m. and my last night on was nearly over. □

PAUL BUTTENWIESER

TERMINATION



After a thousand hours on the couch, *it's not easy to believe in life after analysis.*

Silence.

He ought to be used to it by now, Roger thought, but it still could be oppressive. Silence is the analyst's ground: his painter's canvas, his blank slate. He lives with it and works with it. He learns to listen to it, to hear its nuances. Today, Roger felt it to be a tense, heavy thickness, like the gathering of dark clouds on a sodden day, waiting for the storm to burst. He felt the pressure of the silence like a weight on his chest as he lay on the couch. He looked up at the acoustical tiles in the ceiling, trying one last time to find some pattern, some gestalt. He hadn't discovered one yet. Maybe today he would see it during the closing moments, like the man who understands the meaning of his life just as the waters close over him for the third and last time.

If the tiles had a secret, they didn't reveal it to Roger. If you don't know it now, you never will, as they used to say at med school the night before the exam. That phrase had a particularly chilling quality when you weren't prepared, which was how Roger felt today. When would he ever be? If his analysis hadn't set any longevity records, it was still one of the most dragged-out he had heard of. Six years and change — four months, he thought, or was it five? He ought to know down to the hour, the way they always reported cases. Forty-sixth hour: the patient coughs. Seventy-third hour: traumatic memory. Two hundred fifty-eighth hour: the patient dreams. . . . Nine hundred forty-second hour: termination. Roger had probably gone over a thousand. A four-figure analysis. It sounded grave, like one of those poor prognostic signs. Analysis interminable, Freud's last, deeply pessimistic paper, written in the shadow of his own death. Someday, Roger thought, he'd have to count up the hours. When had he started? March something. A cold, gray, snowless New York winter day. He remembered it well. Now they were finishing on a hot, gray, humid New York summer day. Lie down in grayness, you'll get up in grayness. Proverbs for analysis. It needed a few. No one in the field had any sense of humor. Freud's was thin. He took analysis too seriously, himself too seriously, to allow any jokes about it. He talked about termination solemnly, describing it as an end point as tangible as the healing of a wound. "Where id was, ego shall be." Roger regarded his id as the same untamed beast it had been the day he walked in. "The ability to love and work," Freud said another time. Roger thought he'd probably flunk that test too. They'd graduated him from the Institute the month before; he had the certificate to show for it. But it meant so little to him now, it seemed hollow after all those years. As for love — he preferred not to think about it. He had been essentially alone for so long he wondered about his capacity to love, or be loved. He supposed he looked good from the outside, but from his own point of view he still saw himself as something of a mess. The world might consider his analysis a success, but he felt he was leaving it too soon, with too much still to be done.

He wondered what farewell Dershowitz would give him, what parting advice. This above all, to thine own self be true? Not a chance. The man was an arch antisentimentalist. No flowery speeches, no pious maxims. "Enough thoughts," he'd probably say, "now back to real life." Something like that. He'd have to say something. Maybe he'd send Roger off with one of his strange parables. He liked to tell stories at the end of sessions, when any normal analyst would make an interpretation. Usually Roger didn't get the point; or he might understand it later that night; or the next day, or the next week; or not at all. Or if he got it, the ambiguity would keep him off-balance. Dershowitz never explained them, he would just recount them as if they came from some arcane anthology of psychoanalytic myths. There had been that crazy one about the emperor's horse — how many years ago had it been?

"Roger felt as though he were setting off on a long trip, wondering if he had packed the things he would need."

"A man, having displeased the emperor, was condemned to death," Dershowitz had said, in his dry, ironic tone. What had prompted it? Roger no longer remembered. Doubtless he had been lamenting the futility of analysis, or the futility of life, or some such thing.

> . . . condemned to death. He was to die in the morning. Before his execution he was asked if he had any final request. He asked to see the emperor. At first they refused such an audacious request, but since it was the wish of a doomed man, they relented. He was taken to the throne room, where he threw himself before the emperor and said, "Your Majesty, if you will spare my life, I will teach your horse to talk." The emperor naturally suspected a trick. "Give me a year," the man continued. "If at the end of that time, your horse does not talk, you can have me put to death then."
>
> I can have him put to death now, thought the emperor; but he was intrigued with the idea of hearing his horse talk, and so he granted the man a year.

Noting the January publication of a novel by an HMS alumnus, the Bulletin's *editors asked Paul Buttenwieser '64 for an excerpt from* Free Association. *Title and tone of the chapter to the contrary, "Termination" appears midway through an essentially humorous book. Dr. Buttenwieser, HMS clinical instructor in psychiatry, maintains a private practice in Cambridge.*

As the man was being led off to the imperial stables, one of the guards asked him why he had ever promised to perform such an impossible task.

"A year is a long time," the man answered. "During a year, many things may happen.

"I may die.

"Or the emperor may die.

"Or the horse may talk."

Roger had never understood that story.

"I guess my year is up," he said, finally breaking the silence. "More than a year, in case anyone is keeping count. And the horse is still not talking."

"It's the last day of your analysis," Dershowitz said. "Not the last day of your life."

"I feel as though it is," Roger said. "I feel as though the deadline is up."

"You make your own deadlines," Dershowitz observed.

He didn't make enough deadlines, though; that was the trouble. Or if he made them, he didn't stick to them. Thirty-two years old, how many deadlines had come and gone? And what did he have to show for them? He had asked himself that question too often, and the answer never changed. He couldn't quite call himself a total failure, however much that might appeal to his tragic view of himself. He wasn't a total anything. He was just mediocre, which was worse. Run-of-the-mill. The routine, cookbook chores that life had set before him he had performed adequately enough: college, medical school, internship, residency, his practice, teaching. He could add the Institute to that now. None of these gave him any satisfaction, any sense of accomplishment. They only proved that he could keep moving on a fast assembly line. Anything that required initiative, imagination, drive — bravery — had found him wanting. He lacked the courage to achieve what he wanted to achieve. He had yet to make a difference, to anyone, to the world. If he should die tomorrow, who would . . .

He tried to push away such trite thoughts of mortality. In his last hour he thought it was unworthy of him to be contemplating death. That was a cliché. A ludicrous cliché. Any fool could have predicted that on his last day he would wallow in thoughts of separation, of loss, of death. He had hoped for something else, something nobler. Over the years he had dredged up every memory, every ounce of grief, every mark his father's death had left on his life. He had relived it so often that the pain had dulled itself almost to extinction. Why should it haunt him still? Why couldn't he finally get over it, once and for all?

He had been out the evening his father died. The end of junior year. They had been giving *Hamlet*, and he was in it. He was Laertes, his first big part. His last, come to that. His one brief moment of glory, if playing Laertes in a college production of *Hamlet* could be considered glorious. He had thought it was, at the time. They had assembled a remarkable group of actors for it, and the director had gone on to have a fairly successful career on Broadway. That was his last production at Amherst, and everyone who saw it remembered it for years. It was an event. It had been the best thing Roger had ever done in his life, and he had thought it glory.

But his father hadn't. Roger had been surprised, then angry. Never before had his father told him what to do or not to do. He had often turned to his father for advice, and usually followed it, but until then they had never had an argument like that. Roger had mentioned, almost casually, over spring vacation, that he was playing Laertes. He had thought his father would be pleased, maybe even proud. Instead, he had disapproved. "To take time out from your studies, the end of term, your junior year — and for what? A part in a play! Do you think that's going to get you into med school? Do you think they're going to look at your grades and say, 'Oh well, he was busy acting in Shakespeare?' Is that going to help you?"

"I'm not doing it to get me into med school," Roger had said. "Not everything I do is meant to get me into med school."

"It's foolishness, Roger. It could jeopardize your chances. And for what? You don't want to be an actor, after all. You want to be a doctor."

And then Roger had flared up: "Dad, please don't tell me what I want to do." He had said it quietly, but angrily. He didn't generally speak that way to his father. He didn't generally speak that way to anyone, certainly not to his father. He would have said he was sorry, but he was only sorry for the anger, and not for what he had said; so he said nothing. His father didn't say anything either. They sat together for a few minutes in unaccustomed, angry silence.

That day was the last time they talked about it. As it turned out, it was the last time they talked about anything. Roger wondered if his father had in fact guessed that he had decided not to go to medical school, not to be a doctor, and that their argument over the play was as close as either of them could come to talking about it. He had planned to discuss it with his father, but the quarrel came between them, and so he said nothing. Except: "Don't tell me what I want to do." Had his father guessed?

Nobody had ever forced it on him. His father had never told him to be a doctor, not in so many words. But Roger had always felt that the ambition was not his alone. It was at least half his father's. As far back as he could remember, everyone had taken it for granted that he would be a doctor. He had never thought of himself as anything else. He had never dreamed of being a fireman or a baseball player or a president. Or a pharmacist. All the years of his childhood he had kept that one goal before him. Looking back on it, he saw that his imagination had been constricted, his vision too narrow. He had spent all those years without letting his mind wander, without allowing himself to dream childish dreams.

But he couldn't give it up all by himself. It wasn't his to give up. His father would have to give it up too, and his father would be bitterly disappointed. The arc of his father's life was not complete in itself, but curved into Roger's. To change his plans was to interrupt his father's as well. And so Roger hadn't yet brought himself to say that he was even wavering, much less that he had decided not to go to med school. Time was running out. He ought to be taking the admission tests, writing for applications, if he was going. If he didn't, his father would guess. Another coward's way. He ought to stand up and tell his father face to face, not let it slip out. "You don't want to be an actor. You want to be a doctor."

"Dershowitz would never explain his parables; he would just recount them as if they came from some arcane anthology of psychoanalytic myths."

Of course he wasn't going to be an actor. He would have liked to be, but he couldn't do it. He wasn't talented enough, he wasn't free enough. "You're supposed to be the decisive one, Laertes!" the director kept yelling at him during rehearsals. "You're not supposed to hesitate!" He was caught between his wish to be looked at and his wish to be invisible. He would have liked the actor's life, he would have loved the applause, but he knew he couldn't bring it off. Meanwhile, why shouldn't he have a little romance with the theater? Other possibilities than acting existed. He could direct; who knows, he could write. True, he had never set pen to paper in that regard, but he could try it. He was still young, then; he still had time to afford failure. "If you aren't going to be a doctor, what are you going to do instead?" he could hear his father asking dubiously. What would he say? I want to go on the stage? Be a playwright? "You're too old for that kind of daydream," his father would tell him. Maybe so. More was the pity he hadn't done it when he was younger.

"You want to be a doctor." He could hear it still. He had shuddered when his father had said it. All his desire to tend the sick, work with disease, face death, had finally crumbled back into revulsion. He loathed the idea of working in a hospital, of spending his life among flesh, putrefaction, morbidity, decay. He had always seen himself heroically battling these things, but now he imagined them engulfing him. He saw himself contaminated; infected; infiltrated. He wanted to wash himself free of it all. He wanted to be healed.

He had intended to tell his parents of his decision over the vacation, but the days had slipped by. The last one came, and he still hadn't said anything. When the time was almost up, he prepared himself to tell his father. They sat down together, and Roger steeled himself to deal the blow. Before he did that, he mentioned the play, and his big role. His father had blown up, and the atmosphere was no longer right for such a discussion. Another time, he told himself. It would wait.

He went back to college without saying what he had to say. He studied for his medical tests and threw himself into the part of Laertes, as best he could. The play was a great experience for him. They gave it seven times, each time with increasing intensity. On the last night they performed a special version, presenting the entire tragedy without a break. The actors were all exhausted, and gave more than they thought they had. The director had decided to cut the final scene, stopping it abruptly with Hamlet's dying words. No one spoke after that. A long funeral procession with muffled drumbeats replaced Horatio's farewell. The shooting of the soldiers' guns sounded as the lights died out into blackness. For a long time no one applauded. The entire audience sat in stunned silence. The cast took no curtain calls.

So somber was the mood that the cast party was postponed until the next night. The actors and the crew left the theater without a word. Roger went away feeling as though he had taken part in some mysterious and important ritual, one that would change his life. He walked across the campus alone, still absorbed in the play. He was too tired for the elation he should have felt, and he was filled with a sense of foreboding.

The telephone was ringing as he came down the hallway to his room. At first he didn't realize it was his own phone. Then he thought someone else would answer it. He ran down the last part of the corridor and got there just as the ringing stopped. None of his roommates was around. He wondered who would be calling so late. Probably some one who wanted to go out for a beer, he told himself, but he didn't believe that. He had a premonition that something dreadful was about to happen. He worried that they were trying to reach him, and he had missed the call. He sat for a while in the darkened room, listening for the telephone to ring again, hearing nothing but silence.

He didn't know how long he sat there. Maybe a few minutes, maybe half an hour. When the telephone finally rang, its shrill sound startled him, even though he has been waiting for it. He wanted to answer it to stop the ringing, but found he couldn't move. He felt paralyzed. Forcing himself into action, he lunged forward and picked up the receiver, fumbling it as he did. "Hello?" he said, his voice sounding strange in the darkened silence. "Hello?"

"Roger." His mother's voice was flat, toneless. "It's your father."

She had been calling all evening. Afterwards, he could never rid himself of the notion that if he had been there to receive the first call, his father would have lived. He had had a massive heart attack, but he was still alive when she had first called. He was in a deep coma and never regained consciousness. By the time Roger's mother got through, he was dead. Nothing would have saved him. Roger couldn't have talked to him, even if he had been at the hospital. But whenever he thought of that evening he was overwhelmed with remorse. He kept hearing the telephone ring, and his mother's voice saying, "Roger. It's your father." Was there a reproach in her words?

He had never said goodbye. Roger regretted that almost more than the death itself. They had spoken since the quarrel, at least he had that. But he had never been able to remember what his father had said. The conversation had been friendly enough, he knew, although a shadow still lay between them. Something was left unresolved. They had been polite with each other, cautious. Beyond those things, Roger remembered nothing. Over all the years, he had never recaptured his father's last words to him.

"Good luck!" he exclaimed to Dershowitz. "I remember now. He wished me good luck about the perform-

ance. Of course! I remember being surprised. I thought he didn't know when the play was going on. Then I realized that I had told my mother. She probably persuaded him to call. I wondered why he was calling because he so rarely did, and then I understood: he called just to wish me good luck." He paused, and added, "I guess that was his way of telling me to do what I wanted to do."

"I guess so," Dershowitz agreed.

Roger didn't speak for a moment. "I can't believe I've taken until today to remember that. It seems so clear now, so obvious. How could it have taken so long for me to see it?"

"Would things have been different?" Dershowitz asked skeptically. For someone who preached the value, the necessity, of freedom of will, Deshowitz had a pretty strong fatalistic streak.

"I suppose not," Roger replied. "There's a lot of water over that dam. As you've pointed out — often — one makes one's choices, and then spends the rest of one's life discovering what the reasons were. We both know I had some better reasons to go ahead and become a doctor than to make peace with my dead father."

"You wouldn't have made it this far if that had been the only reason," Dershowitz said.

"I don't think of myself as having made it particularly far," Roger said. "I still — to this day — take very little pride in being a doctor. Whatever the folks in South Orange may think."

"I know you don't," Dershowitz replied.

"It would have helped . . ." His voice was unsteady. "It would have helped a lot to have known that whatever I decided to do, he still would have given me his blessing."

Dershowitz waited a moment, then said quietly, "Well you know it now."

Roger nodded. He couldn't speak. A terrible sense of vindication, coming too late and mixed with aching regret, filled him. He wished he had seen all this sooner. His time was nearly up, he knew. In a few moments he would have to say goodbye, this time to Dershowitz. He wasn't ready. He hoped he could do it decently. He had thought all his tears were long since shed. "Superstitious as I was, even then," he went on, "I told him — I thanked him — but I told him it was bad luck to wish me good luck just before I was to go onstage. He of course didn't buy that. He didn't believe in such nonsense. He refused to take it back, and he wished me good luck again. I suppose it's just as well he did. Considering that it took me until the last day of my analysis to remember that, God knows if I would ever have remembered if his last words to me had been 'Break a leg.' "

"You would have remembered it tomorrow," Dershowitz said. "Or the next day." Dershowitz was never impressed by the recovery of lost memories during psychoanalysis. He said they were parlor tricks, left over from the days of hypnosis and mesmerism. "They're fine as far as they go," he once told Roger. "Just don't expect any trumpets and drums."

The end had come. Roger felt nervous, as though he were setting off on a long trip, not sure whether he had attended to everything before he left, wondering if he had packed the things he would need. "The time has come?" he asked.

"It's come," Dershowitz confirmed. Roger wanted to hear a bell tolling mournfully in the background, but he knew that in his life events took place without sound effects. No trumpets and drums. He had rehearsed a final little farewell to Dershowitz, but now that the time had arrived he couldn't give it. He doubted whether Dershowitz would have consented to listen to it. "I don't believe in valedictories, as you know," Dershowitz had said once. Roger wanted to show his gratitude, but he knew better than to go overboard with Dershowitz.

"You've stuck by me," was all he could say. That didn't nearly cover it, but Dershowitz seemed to understand.

Dershowitz told him, "What I've had to say, I've said. This is only one kind of goodbye, the end of one project. We've both worked hard, and I think we've both gotten a good deal out of it. I know I have. You're an analyst now, and New York being the small town it is, I'm sure we'll run into one another. In any event, keep in touch, will you? I'll always be interested to hear how things go along for you."

Roger got up from the couch. His head swam a bit from the sudden shift in position. Looking at Dershowitz, shaking his hand, he felt disoriented, as if saying goodbye to a virtual stranger. "Thank you for everything," he couldn't resist saying.

Dershowitz tilted his head a fraction of an inch in reluctant acknowledgment. "Since you're not about to go on the stage," he said as Roger was opening the door, "I think we can forget about jinxes. I do want to wish you the very best of everything."

As Roger nodded his thanks, he automatically knocked on the massive wooden door he was opening. He smiled sheepishly at Dershowitz, who smiled back at him. Then he was outside, alone, in silence. □

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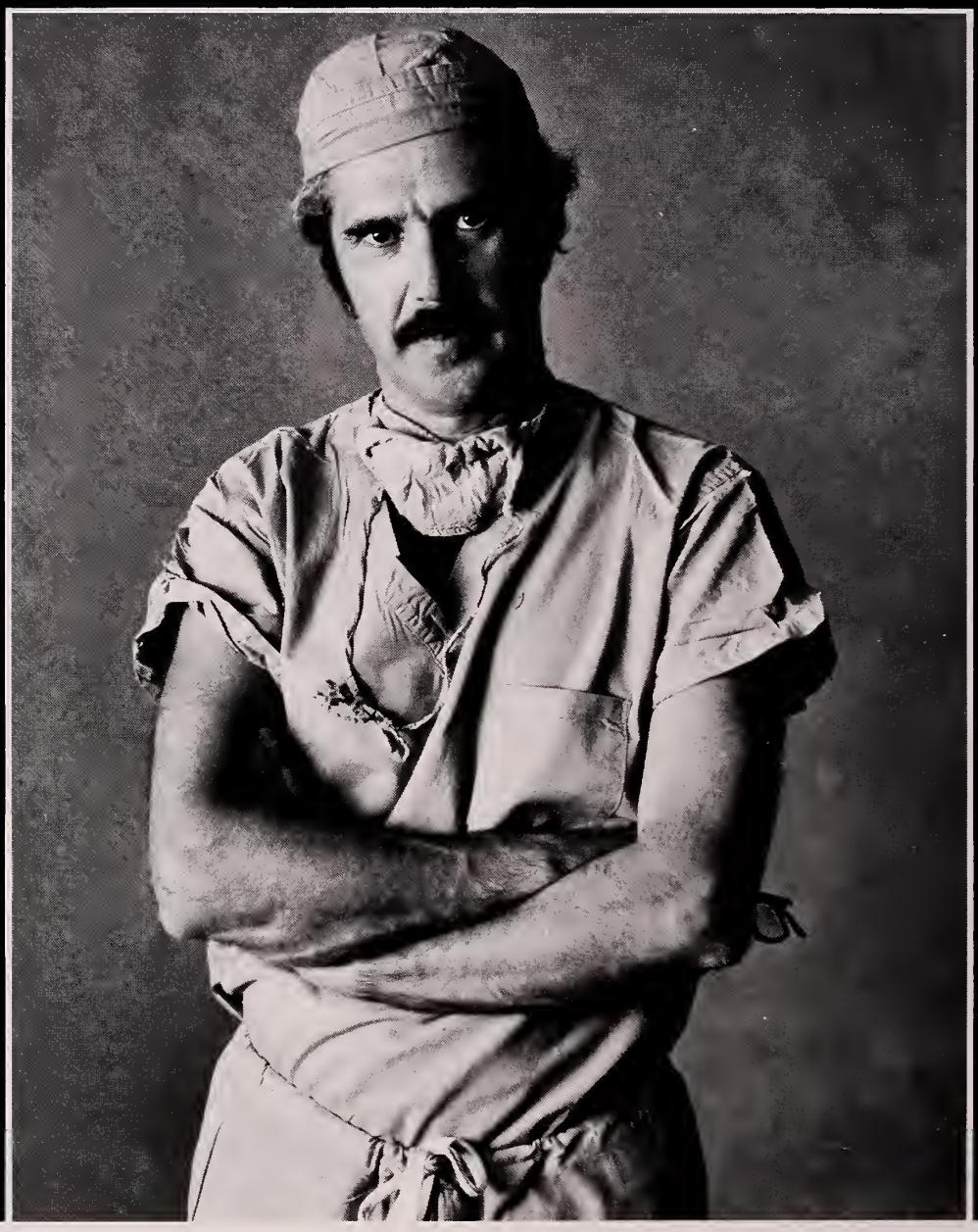

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